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Bibliography on “5G mobile”

Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.comnet.2019.107082

ABSTRACT: "As the number of mobile users grows rapidly, wireless access technologies are evolving to provide high data rates to mobile users and to support emerging applications involving both human and machine-type communications. In this context, 5G is considered as a solution to provide wireless users with high coverage and increased network capacity, by enabling the integration of heterogeneous networks, that may have different wireless access technologies, coverage area sizes and topologies. Within such a setting, a user or a device may find more than one candidate air interfaces to connect or to perform a handover; this further highlights the need for optimum connectivity and seamless mobility in heterogeneous networks to also address the requirements of the emerging 5G vertical use cases in different sectors such as autonomic cars, industrial robotics, Internet of Things etc. In this article, a concise overview of the trends in mobility management will be provided considering the emerging 5G architectures and service types (eMBB, mMTC, URLLC). Specific approaches of vertical handover in 5G are described, considering the novel architectural changes imposed by Software defined Networking (SDN), Network Function Virtualization (NFV) and Multi-Access Edge Computing (MEC). In addition, the paper will address mobility management evolutionary steps in signaling based on the novel architectural elements imposed by SDN, NFV and MEC, considering the requirements of different vertical use cases that will lead to the required throughput, latency, and scalability."

Bibliography on “artificial intelligence (AI)”

Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.bushor.2019.12.001

ABSTRACT: "AI-enabled recruiting systems have evolved from nice to talk about to necessary to utilize. In this article, we outline the reasons underlying this development. First, as competitive advantages have shifted from tangible to intangible assets, human capital has transitioned from supporting cast to a starring role. Second, as digitalization has redesigned both the business and social landscapes, digital recruiting of human capital has moved from the periphery to center stage. Third, recent and near-future advances in AI-enabled recruiting have improved recruiting efficiency to the point that managers ignore them or procrastinate their utilization at their own peril. In addition to explaining the forces that have pushed AI-enabled recruiting systems from nice to necessary, we outline the key strategic steps managers need to take in order to capture its main benefits."

Full-text retrieved from ProQuest Central: https://search.proquest.com/central/docview/2332335907/abstract/AE8DAB191DEE4F32PQ/1

ABSTRACT: "We present a link-centric approach to study variation in the mobile phone communication patterns of individuals. Unlike most previous research on call detail records that focused on the variation of phone usage across individual users, we examine how the calling and texting patterns obtained from call detail records vary among pairs of users and how these patterns are affected by the nature of relationships between users. To demonstrate this link-centric perspective, we extract factors that contribute to the variation in the mobile phone communication patterns and predict demographics-related quantities for pairs of users. The time of day and the channel of communication (calls or texts) are found to explain most of the variance among pairs that frequently call each other. Furthermore, we find that this variation can be used to predict the relationship between the pairs of users, as inferred from their age and gender, as well as the age of the younger user in a pair. From the classifier performance across different age and gender groups as well as the inherent class overlap suggested by the estimate of the bounds of the Bayes error, we gain insights into the similarity and differences of communication patterns across different relationships."


Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.ifacol.2019.12.448

ABSTRACT: "Health management, or in other words health optimization, is coming to the forefront in most of the world’s countries. Almost every person has a certain predisposition to the development of chronic diseases, which is determined by corresponding risk factors. Some of these risk factors can be managed in order to minimize the risk of disease, which promotes health optimization. The intelligent system presented here performs the task of monitoring manageable risk factors, assessing their impact, and formulating recommendations to reduce this impact. The performance of the system is demonstrated on the examples of myocardial infarction, stroke and depression. The intelligent system evaluates the risks of diseases on the basis of individual risk factor values and provides recommendations to reduce these risks. A health manager who possesses additional information about specific aspects of the person’s health can adjust the recommendations issued by the system."


Full-text retrieved from ProQuest Central: https://search.proquest.com/central/docview/2330760607/abstract/30784E79EBD645A8PQ/1
ABSTRACT: "Technological change has given rise to the much-discussed "gig" or "platform economy," but labor law has yet to catch up. Platform firms, most prominently Uber, use machine learning algorithms processing torrents of data to power smartphone apps that promise efficiency, flexibility, and autonomy to users who both deliver and consume services. These tools give firms unprecedented information and power over their services, yet they are little-examined in legal scholarship, and case law has yet to meaningfully address them. The potential for exploitation of workers is immense, however the remedies available to workers who are harmed by algorithm design choices are as yet undeveloped. This Note analyzes a set of economic harms to workers uniquely enabled by algorithmic work platforms and explores common law torts as a remedy, using Uber and its driver-partners as a case study. Part II places the emerging "platform economy" in the context of existing labor law. Part III analyzes the design and function of machine learning algorithms, highlighting the Uber application. This Part of the Note also examines divergent incentives between Uber and its users alongside available algorithm design choices, identifying potential economic harms to workers that would be extremely difficult for workers to detect. Part IV surveys existing proposals to protect platform workers and offers common law causes of action sounding in tort and contract as recourse for workers harmed by exploitative algorithm design."


Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.procs.2019.12.023

ABSTRACT: "The next generation of IoT is characterized by the usage of smart solutions with embedded intelligence at the edge that relies on high connectivity, processing capabilities for edge devices and real-time analysis of information. This evolution is based on the convergence of some key ICT technologies like hyperconnectivity and new network architectures, edge computing, artificial intelligence, and blockchain. Considering the high expectations regarding the wide use in various domains of the new, interoperable IoT platforms built on these technologies, it is assumed that they will influence also the decision-making processes specific to these domains. The paper provides a short overview of these technologies with the aim to identify such potential influences. Then a case study in the field of health monitoring is presented, which consists in proposing a new version of a current pilot solution built around the sensing service offer integrator role. This new version is compliant with the RO-Smart Ageing architecture and will provide specific support for all three decision levels implemented in the medical unit practice, with special emphases on risk evaluation in real time monitoring regime."


Full-text retrieved from ProQuest Central: https://search.proquest.com/central/docview/2329717329/abstract/29252581C06B45A DPQ/1

ABSTRACT: "Trust is believed to be a foundational cornerstone for artificial intelligence (AI). In April 2019 the European Commission High Level Expert Group on AI adopted the Ethics Guidelines for Trustworthy AI, stressing that human beings will only be able to confidently and
fully reap the benefits of AI if they can trust the technology. Trustworthy AI is defined as ethical, lawful and robust AI. Three things strike me about the EC Guidelines. Firstly, though building trust in AI seems to be a shared aim, it is not explicated what trust is, and how it can be built and maintained. Secondly, the Guidelines ignore the widespread distinction made in philosophical literature between trust and reliance. Thirdly, it is not clear how the values have been selected with which AI has to align and what would happen if they came into conflict. In this paper, I shall provide a conceptual analysis of trust in contrast to reliance and ask when it is warranted to talk about trust in AI and trustworthy AI. I shall show how trust and risk are related and what benefits and risks are associated with narrow and general AI. Also, I shall point out that metaphorical talk about ethically aligned AI ignores the real disagreements we have about ethical values.”

Bibliography on “big data”

Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.ijinfomgt.2019.102055

ABSTRACT: “This study uses the resource-based view to explore the impact of data volume, data velocity, and data variety, which are the main characteristics of big data, on firm performance and the mediating roles of data value and data veracity on these relationships. To test the research model, we collected data from 143 top and middle level managers in the United States. The findings show that data variety positively improves data value generation, whereas data volume and data velocity do not impact it. Additionally, while data volume negatively impacts data veracity, data velocity and data variety positively impact it. Findings indicate the necessity of conceptually differentiating among big data characteristics in investigating their impacts on firm outcomes instead of treating big data as a holistic variable. The study provides useful insights for researchers and managers willing to better understand the role of big data characteristics in influencing firm performance.”


Full-text retrieved from Taylor & Francis Online: https://doi.org/10.1080/1369118X.2018.1499793

ABSTRACT: “This study examined the echo chamber phenomenon and opinion leadership on Twitter based on the 2016 U.S. presidential election. Network analysis and ‘big data’ analytics were employed to analyze more than 50 million tweets about the two presidential candidates, Donald Trump and Hillary Clinton, during the election cycle. Overall, the results suggested that Twitter communities discussing Trump and Clinton differed significantly in the level of political homogeneity and opinion leadership, and that certain opinion leaders were responsible of creating homogeneous communities on Twitter. This study made a theoretical contribution to the literature by linking opinion leadership and Twitter’s network structure and shedding light on what may have caused the echo chamber problem to happen in an emerging media landscape.”

Full-text retrieved from Taylor & Francis Online: https://doi.org/10.1080/15472450.2019.1699077

ABSTRACT: "With the emergence of the internet of things, pathfinding problems have recently received a significant amount of attention. Various commercial applications provide automated routing by considering travel time, travel distance, fuel consumption, complexity of the road, etc. However, many of these prospective applications do not consider route safety.

Emergence of high-resolution big data generated by connected vehicles (CV) helps us to integrate safety into routing problem. The goal of this study is to address safety aspects in pathfinding problems by developing a methodological framework that simultaneously considers safety and mobility. To reach this goal, the concept of volatility is utilized as a surrogate safety performance measure to quantify route safety and driver behavior. The proposed framework uses CV big data and real-time traffic data to calculate safety indices and travel times. Measured safety indices include 5-year crash history, route speed and acceleration volatility, and driver volatility. Travel time and safety shape a cost function called “route impedance.” The algorithm has the flexibility for the user to predefine the weight for safety consideration. It also uses driver volatility to automatically increase safety weight for volatile drivers. To illustrate the algorithm, a numerical example is provided using an origin-destination pair in Ann Arbor, MI, and more than 42 million CV observations from around 2,500 CVs from the Safety Pilot Model Deployment (SPMD) were analyzed. The sensitivity analysis is performed to discuss the impact of penetration rate of CVs and time of the trip on the results. Finally, this paper shows suggested routes for multiple scenarios to demonstrate the outcome of the study. The results revealed that the algorithm might suggest different routes when considering safety indices and not just travel time."


Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.ifacol.2019.11.234

ABSTRACT: "Electronic commerce is growing continuously as a consequence of the advantages that it provides for consumers and companies. As the volume growth, several operational logistics challenges appear, mainly related to providing proper service levels which meet consumer expectations. The exploration of consumer behavior data to perform predictive analysis stands out as an option for overcoming logistic difficulties. Thereof, this paper assesses the e-commerce distribution operation and propose a novel conceptual model embracing the anticipation of e-commerce’s demand based on the data collected by digital marketing, to enable predictive planning for the distribution of products."

Bibliography on “blockchain”


Full-text retrieved from ACM DL: https://cacm.acm.org/magazines/2020/1/241715-blockchain-technology/fulltext

Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.jpdc.2019.12.019

ABSTRACT: "In this paper we survey a number of interesting applications of blockchain technology not related to cryptocurrencies. As a matter of fact, after an initial period of application to cryptocurrencies and to the financial world, blockchain technology has been successfully exploited in many other different scenarios, where its unique features allowed the definition of innovative and sometimes disruptive solutions. In particular, this paper takes into account the following application scenarios: end-to-end verifiable electronic voting, healthcare records management, identity management systems, access control systems, decentralized notary (with a focus on intellectual property protection) and supply chain management. For each of these, we firstly analyse the problem, the related requirements and the advantages the adoption of blockchain technology might bring. Then, we present a number of relevant solutions proposed in the literature both by academia and companies."


Full-text retrieved from ScienceDirect: https://search.proquest.com/central/docview/2326847323/abstract/2BDC82164D874293PQ/1

ABSTRACT: "First of all, let's deal with a common misconception: Even in the event of a large scale hack the chain is still operated by most nodes and the integrity of data is verifiable through the on-going audit trail. * Blockchain can play a vital role by allowing quicker settlement of transactions and trades as it removes the need for lengthy process of verification, settlement, and clearance. Data tracking enabled by blockchain technology may also help to automate certain accounting services using AI, which could reduce human error and instances of fraud. The Big Four accounting firms are already investigating the options: KPMG has invested in programs and projects to research and share information about blockchain; Deloitte has developed blockchain-based software; while PwC has created a blockchain-based auditing service; and Ernst & Young applies it to integrate information and process within and across enterprise boundaries."


Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.csi.2019.103409

ABSTRACT: "Blockchain aims to transform businesses and other forms of transactions from a centralized, human-based to a shared, algorithm-based trust model, which enables a new risk management paradigm. Misaligned incentives in different principal – agent scenarios are important risk factors from governance point of view. With blockchain, these misalignments are accounted for algorithmically, therefore novel governance models are possible. What role do risks play in terms of deciding for, or against the adoption of blockchain? How to best define requirements to achieve it? This paper explores standards and risk as factors, which
can support or hinder the sustained application of blockchain in a broad scope of environments. We conducted a systematic literature review that outlines a current understanding of perceived risk surrounding the adoption and use of blockchain technology in the context of requirements engineering. Furthermore, selected models for managing risks are presented. Finally, areas where deeper research is required are identified. We conclude that a gap exists in normative frameworks that affect the adoption and sustainable use of blockchain technology. Closing this gap can support the sustainable use of blockchain technology.”


Full-text retrieved from ProQuest
Central: https://search.proquest.com/central/docview/2329716916/abstract/213E5B4E3D48FCPQ/1

ABSTRACT: “Sometimes it seems as if everyone has bought into the hype: Industries as far-flung as real estate and diamond sales have embraced blockchain without entirely knowing what it is or how its most vaunted features might fail or have unintended consequences. Blockchain assures users that once information has been stored, it can never be deleted or falsified. This means that when people in finance, say, pore over the history of a transaction, they feel content in the knowledge that illegals have nowhere to hide. It means that people in the supply chain of a product trust that they can check its provenance without fear that misinformation has been slipped in along the way. Blockchain is widely viewed as unbreakable because advanced cryptographic techniques are used to encode the data and ensure that it is not altered. Let's focus first on the ones that have long been present in more conventional systems as well.”


Full-text retrieved from ACM DL: https://dl.acm.org/doi/abs/10.1145/3371595.3376896

ABSTRACT: “In 2008, an author using the pseudonym Satoshi Nakamoto wrote a white paper describing Bitcoin, a new decentralized cryptocurrency.8 Unlike past attempts at forming a cryptocurrency—attempts that relied on preestablished trusted entities for the system to operate correctly—Bitcoin's design runs on the open Internet, with no one in charge, while maintaining tight security. While the building blocks of Bitcoin were not novel, the composition of these properties into a single system was a meaningful contribution, and Bitcoin became the first cryptocurrency to achieve widespread attention. In response to Bitcoin's success, the technology was quickly dissected to understand how it works and what is new about it. Its most innovative component has been labeled blockchain technology, a decentralized mechanism for participants to agree upon data and computation. Technology news commonly leaves the cheery impression that blockchain technology reduces or even completely eliminates the need for trust. The use cases of such an innovation stretch the imagination. Occasionally, there is a contrarian take. The truth is, trust is complicated. Blockchain technology does eliminate specific, narrow relies on trust, but it also requires new assumptions that might be better or worse for specific use cases. Thus, there are not many single-sentence talking points that will be accurate about blockchain technology's efficiency, security, cost, etc. It is clear that this technology requires a more nuanced discussion. Business executives, government leaders, investors, and researchers frequently ask the
following three questions: (1) What exactly is blockchain technology? (2) What capabilities does it provide? (3) What are good applications? The goal of this article is to answer these questions thoroughly, provide a holistic overview of blockchain technology that separates hype from reality, and propose a useful lexicon for discussing the specifics of blockchain technology in the future.


Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.jisa.2019.102407

ABSTRACT: "Modern healthcare systems are characterized as being highly complex and costly. However, this can be reduced through improved health record management, utilization of insurance agencies, and blockchain technology. Blockchain was first introduced to provide distributed records of money-related exchanges that were not dependent on centralized authorities or financial institutions. Breakthroughs in blockchain technology have led to improved transactions involving medical records, insurance billing, and smart contracts, enabling permanent access to and security of data, as well as providing a distributed database of transactions. One significant advantage of using blockchain technology in the healthcare industry is that it can reform the interoperability of healthcare databases, providing increased access to patient medical records, device tracking, prescription databases, and hospital assets, including the complete life cycle of a device within the blockchain infrastructure. Access to patients’ medical histories is essential to correctly prescribe medication, with blockchain being able to dramatically enhance the healthcare services framework. In this paper, several solutions for improving current limitations in healthcare systems using blockchain technology are explored, including frameworks and tools to measure the performance of such systems, e.g., Hyperledger Fabric, Composer, Docker Container, Hyperledger Caliper, and the Wireshark capture engine. Further, this paper proposes an Access Control Policy Algorithm for improving data accessibility between healthcare providers, assisting in the simulation of environments to implement the Hyperledger-based electronic healthcare record (EHR) sharing system that uses the concept of a chaincode. Performance metrics in blockchain networks, such as latency, throughput, Round Trip Time (RTT), have also been optimized for achieving enhanced results. Compared to traditional EHR systems, which use client-server architecture, the proposed system uses blockchain for improving efficiency and security."

Bibliography on “broadband”

Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.telpol.2019.101905

ABSTRACT: "A review of the literature on the relation between telecommunications and economic development published since the turn of this century is undertaken. Two stages have been considered: until 2008, most contributions continued to examine the role of telecommunications taken together; since 2009, the impact of broadband –and, to a lesser extent, of mobile communications– dominates the research agenda. All in all, the role of
telemcommunications as a catalyst to leverage economic growth has been conclusively proven over the years. Taking into consideration the shortcomings of previous research, suggestions for future work are also provided."

Bibliography on “child online protection”

Full-text retrieved from Taylor & Francis Online: https://doi.org/10.1080/13600869.2019.1600870

ABSTRACT: "Foreign-made child sex dolls are now commercially available online, and recent cases indicate that their importation is a criminal offence. However, whilst there are growing calls for criminalisation, it is unclear as to where the law stands in relation to them and their robotic counterparts. This article seeks to initiate debate by asking; could and should child sex dolls and robots be caught by the child protection framework? Considering core offences, it explores whether and where such items might fit within the current law. The argument proposed is that whilst there may be patchy coverage no single statute provides a convincing match. Drawing analogies to legal debates on child pornography, the article considers various justifications for criminalisation. Following a harm-based perspective, it proposes new crimes under the Sexual Offences Act 2003 ('SOA') which address the creation, distribution and possession of child sex dolls and robots where a real child is involved in their creation. Where sex dolls and robots are fantasy creations, it is argued that different considerations arise and it is difficult to justify the same range of restrictions. Accordingly, separate SOA offences are suggested with exception made for self-made artefacts that are intended solely for private use."

Bibliography on “climate change and ICTs”

Full-text retrieved from Taylor & Francis Online: https://doi.org/10.1080/1369118X.2018.1500622

ABSTRACT: "Theorizing information flows is at the heart of traditional communication theories such as the two-step flow of communication and the concept of opinion leadership. Social media have fundamentally altered how information reaches people. This study examines opinion leadership in social media networks and argues that opinion leaders may no longer need to rely on information provided by the media if they have access to first-hand information. To test this assumption empirically, we used data from the 2015 United Nations Climate Change Conference (COP21). Attendees of the conference had direct information about what was happening, which they were able to share live with their followers via social media. We used geo-located tweets to identify Twitter users who attended the COP21 summit. We then located these users in a data set of tweets that were collected based on the main conference hashtag (#COP21) and represent the wider social media debate on the conference. Our results, which are based on network analysis measures and Twitter user data, show that COP21 participants were more central actors compared to the average user in the network, and that they were more likely to have brokering positions. They were also more involved in the debate and
received more attention from other users. We used automated content analysis to divide COP21 participants into different actor types and performed the analysis by actor group. The results show only minor differences across the actors and support the robustness of our analysis.


Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.scs.2019.102008

ABSTRACT: "As a new mode of urbanization, smart city both influences the environmental load and economic performance of cities through technology effect, resource allocation effect and industrial structure upgrade effect. So comes the natural question: has smart city construction improved the eco-efficiency of cities In China? How does the impact change over time? Is the impact heterogeneous across cities? Based on Green Solow model, this paper adopts the Super-efficiency SBM model to measure the eco-efficiency of 152 prefecture-level cities in China covering the period 2003-2016, and then DID model is applied to investigate the impact of smart city pilot policy on eco-efficiency. On the whole, the smart city construction significantly improves the eco-efficiency, and the multi-stage DID results reveal that the promotion effect is increasing over time due to the annual superposition. Furthermore, the impact is heterogeneous across cities. Although the promotion effect on medium-sized cities is less than that of large cities, the promotion effect has actually weakened when the urban population size exceeds 5 million. Moreover, the lower the level of city’s economic development, the greater the role of smart city construction in promoting eco-efficiency. The research conclusion is of great practical significance for the reform of urban governance model and the realization of high-quality urban development."

Bibliography on “cybersecurity”


Full-text retrieved from ScienceDirect: https://doi.org/10.11989/JEST.1674-862X.90523016

ABSTRACT: "Internet of things (IoT) is a developing technology with a lot of scope in the future. It can ease various different tasks for us. On one hand, IoT is useful for us, on the other hand, it has many serious security threats, like data breaches, side-channel attacks, and virus and data authentication. Classical cryptographic algorithms, like the Rivest-Shamir-Adleman (RSA) algorithm, work well under the classical computers. But the technology is slowly shifting towards quantum computing, which has immense processing power and is more than enough to break the current cryptographic algorithms easily. So it is required that we have to design quantum cryptographic algorithms to prevent our systems from security breaches even before quantum computers come in the market for commercial uses. IoT will also be one of the disciplines, which needs to be secured to prevent any malicious activities. In this paper, we review the common security threats in IoT and the presently available solutions with their drawbacks. Then quantum cryptography is introduced with some of its variations. And finally, the analysis has been carried out in terms of the pros and cons of implementing quantum cryptography for IoT security."

Full-text retrieved from ProQuest Central: https://search.proquest.com/central/docview/2329716916/abstract/213E5B4E383D48FCPQ/1

ABSTRACT: "Sometimes it seems as if everyone has bought into the hype: Industries as far-flung as real estate and diamond sales have embraced blockchain without entirely knowing what it is or how its most vaunted features might fail or have unintended consequences. Blockchain assures users that once information has been stored, it can never be deleted or falsified. This means that when people in finance, say, pore over the history of a transaction, they feel content in the knowledge that illegalities have nowhere to hide. It means that people in the supply chain of a product trust that they can check its provenance without fear that misinformation has been slipped in along the way. Blockchain is widely viewed as unbreakable because advanced cryptographic techniques are used to encode the data and ensure that it is not altered. But there are vulnerabilities to be exploited. Let's focus first on the ones that have long been present in more conventional systems as well."


Full-text retrieved from Taylor & Francis Online: https://doi.org/10.1080/23738871.2019.1701692

ABSTRACT: "One of the most neglected and important aspects of cyber conflict involves the role of emotions in decision-making and its potential influence on the cyber domain in particular. This paper constitutes an initial attempt to examine some of the policy implications of neglecting or omitting emotional factors from our understanding of decision-making in the cyber realm. Several elements of cyber conflict, including secrecy, overlap with other kinds of conflict, while other aspects, such as the speed of computation, present unique and novel challenges. This discussion focuses on cyber conflict. Because the effects of emotion on judgement and decision-making, as well as behaviour, are not specific to the realm of cyberspace, this examination begins with a broader discussion of more recent literature in psychology and neuroscience on the effects of emotion on both choice and action. It then proceeds with a more detailed examination of the influence of specific emotions on decision-making in cyber conflict. It concludes with some of the possible political implications that follow from a fuller recognition of the role of emotions on conflict. An understanding of the role of human emotion in decision-making is essential to achieve effective and accurate policy in the cyber realm."


Full-text retrieved from Taylor & Francis Online: https://doi.org/10.1080/13600834.2020.1705033

ABSTRACT: "The aim of this article is to verify whether existing international legal mechanisms provide effective protection of privacy in cyberspace in supra-regional terms. For years, human rights systems have been perceived as effective mechanisms for strengthening the area of fundamental rights. Nevertheless, in the case of activities taking place in cyberspace, the protective standards arising from international treaties seem to be insufficient. Despite the
dynamic expansion of legislation in the area of data protection, the scope of the standards being used is still local – national or regional, rather than global. Hence, it is necessary to consider whether attaining an equal level of privacy protection in cyberspace and in physical space does not require putting forward new legal mechanisms that not only overcome the limitations of existing international agreements, but also enhance the trust in and credibility of the global data market, given that it is essential to the development of modern society.”

Bibliography on “digital divide”

Full-text retrieved from ProQuest Central: https://search.proquest.com/docview/2332090974/abstract/33CA914521164988PQ/1

ABSTRACT: "The analysis of digital competencies in agrarian companies shows that there is a lack of specialists and modern technologies, which leads to a relatively higher level of production costs and a tendency to lose competitive advantages in the local and global markets. The digital divide in the Ryazan region appears as the result of uneven course of economic development due to such factors as quality of soil, water resources, mineral reserves, distance from the administrative center, unequal accessibility of the Internet, differences in skills and knowledge, the demographic structure of the population. The sample factors include those that illustrate the level of investments in the ICT sphere, the popularity of digital technologies in the business community, the availability of high-speed Internet access, and the level of digital competencies. The target levels for the rural territories in 2018 were the following (Ryazan Statistics, 2018): - P1, Internet users per 1000 people - 174; - P2, small e-business companies per 10 thousand people, number of registered companies - 89; - P3, the number of highly qualified ICT specialists - 25; - P4, the volume of capital investment (not including federal or municipal budget investments) per 1 person, roubles - 26647; - P5, the number of organizations using digital technologies - 24; - P6, personal computers per 100 staff members, having access to the”

Bibliography on “digital economy”

Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.ifacol.2019.11.234

ABSTRACT: “Electronic commerce is growing continuously as a consequence of the advantages that it provides for consumers and companies. As the volume growth, several operational logistics challenges appear, mainly related to providing proper service levels which meet consumer expectations. The exploration of consumer behavior data to perform predictive analysis stands out as an option for overcoming logistic difficulties. Thereof, this paper assesses the e-commerce distribution operation and propose a novel conceptual model embracing the anticipation of e-commerce’s demand based on the data collected by digital marketing, to enable predictive planning for the distribution of products.”

Full-text retrieved from ScienceDirect: https://search.proquest.com/docview/2330735938/abstract/94D874FEC08A4BB3PQ/1

ABSTRACT: "Modern information technologies are among the most effective channels for implementing the complex impact of the globalization process. Therefore, the issue of studying the security of innovative development of the national economy at the digital level is relevant. The aim of the research is to analyze the readiness of the Russian Federation to integrate into the digital space in all spheres of life, as well as to identify digital threats during the transition of the Russian economy to an innovative development path and to find solutions to prevent threats and risks of cybercrime. In the research process, the key was the analysis method, which allowed to achieve the purpose by deeply studying the outlined issue. The authors reviewed the program for introducing our country into the digital space 'Digital Economy of Russia', approved by the Government of the Russian Federation on July 28, 2017 and identified the advantages and disadvantages of this program. Furthermore, the authors give a detailed description of the concept of 'cybercrime' and its types, and determine how to deal with threats in the digital space. It was concluded that the implementation of measures aimed at creating an infrastructure for the innovative development of the economy and ensuring economic security for the implementation of priority national projects will create the necessary prerequisites for the implementation of national policy aimed at modernizing the country, Russian Federation gaining a leading position in the global economy, and restoration of world power status and ensuring sustainable development of the country in the socio-economic field."


Full-text retrieved from Taylor & Francis Online: https://doi.org/10.1080/02681102.2019.1701969

ABSTRACT: "Mobile payment services hold the potential for financial inclusion in developing economies. Low-income countries are characterized by distinctive conditions like price sensitivity, low digital penetration, high risk of failure, and competitive emerging markets, which further influence mobile payment usage. We develop a research model to identify the contextual facilitators (like price benefit, network externalities, trust, and habit) and barriers (like risk, lack of facilitating conditions, and operational constraints) driving mobile payment usage intention. We test the model using data from 298 survey respondents from India who had adopted and were currently using mobile payment services. The factors that facilitate or constrain users' intention to continue using mobile payments are essential in understanding the technology's sustenance and its future in enabling financial inclusion."

Full-text retrieved from Taylor & Francis Online: https://doi.org/10.1080/01972243.2019.1709931

ABSTRACT: "Over some seven decades, a rather mundane transition that in its thoroughness and consequences has gone largely unacknowledged, has taken place, namely the revolution in modern information systems (IS) that guide organizations in their actions. Today, it is fair to say that IS have come to rule the world. They do this literally, by the rules they embody, which dictate how much of everyday life, as it relates to individuals and organizations and the transactions they engage in, takes place around the globe. In essence, IS have become important social and economic infrastructure. Seeking an understanding of how this has come about, I review historical developments in IS, focusing in particular on accounting systems, enterprise systems, retail automation, and electronic commerce. I argue that it is transactions and their facilitation that lie at the heart of IS and its development as a field of practice. I reflect on why this has gone mostly overlooked as such. I consider where we have now arrived with transaction facilitation as infrastructure and its importance in the light of current issues. I suggest how future studies might contribute to our learning more about where we should want to be with our transaction facilitation infrastructure."

Bibliography on “e-Government”

Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.procs.2019.11.119

ABSTRACT: "The purpose of this study was to measure the public participation intention of e-government service by integrating between variables of social media activity and DeLone and McLean's Information Systems Success Model. The method used was the structural equation model (SEM). From 9 proposed hypotheses, the results showed that all had positive and significant impacts. The experimental aftereffects of this examination make two ends and significant commitments. In the first place, the impacts of information distribution activities through social media are largely ignored in various e-government studies. This study confirms that information distribution activities with social media have a significant influence on public satisfaction which ultimately affects public participation intention."


Full-text retrieved from Taylor & Francis Online: https://search.proquest.com/docview/2330991477/abstract/2A8596DC3E14415EPQ/1

ABSTRACT: "Disasters affect three-quarters of the world, they cause huge losses of life and property every year. Information and communication technology (ICT) - as the backbone of e-government is one of the factors that reduce the damage caused by these disasters. This paper discusses the impact of demographic factors on citizens' readiness towards ICTs and..."
disaster management, by conducting a questionnaire form that tests the readiness of the Iraqi citizen and the extent of their interest in this technology being threatened by disaster.”


Full-text retrieved from IEEE Xplore: [http://dx.doi.org/10.1109/iCCECE46942.2019.8941963](http://dx.doi.org/10.1109/iCCECE46942.2019.8941963)

ABSTRACT: “The purpose of conducting this systematic literature review is to analyze the previous research published on e-governance services, to find out the differences between e-government projects in developing and developed countries. This research focuses on the factors that cause developing countries to refrain from providing e-governance benefits to everyone on the receiving end. This paper also finds out the factors that could be adopted from developed countries to improve e-governance in developing countries. The basic aim of e-governance is to provide “Equality of Opportunity”, because citizens are the main participants in the e-government services so the main focus would be to find out the factors that extend equality to everyone. Mostly e-government projects are trusted by the well-educated citizens so we aimed to find the reasons of trust issues on government. Through a systematic literature review, a study on the current research on e-governance services was performed. The findings were discussed and efforts were made to impose improvements where the flaws occurred in e-services in developing countries that in turn give trust and economic growth to countries.”


Full-text retrieved from IEEE Xplore: [http://dx.doi.org10.1109/ICDS47004.2019.8942293](http://dx.doi.org10.1109/ICDS47004.2019.8942293)

ABSTRACT: “In the digital age, e-government aims to ensure accountability, transparency, access and information collaboration across multiple organizations. With the advent of the cloud, the use of information and communication technologies has strengthened the various functional areas of government, such as health care, justice and governance. The interoperability of e-government enables citizens to reap the benefits of the Internet and to have easy access to services. This is an important approach that allows various government system to increase efficiency, reduce costs, and provide potentially better services and to contribute to the construction of a smart city by adapting cloud Business Intelligence solution. The present article propose an approach that has great enhancement impact over organizational issues. Furthermore, the proposed approach setups different impacts to handle quality and easy access of services based on cloud infrastructure.”

Bibliography on “e-Health”
ABSTRACT: “Health management, or in other words health optimization, is coming to the forefront in most of the world’s countries. Almost every person has a certain predisposition to the development of chronic diseases, which is determined by corresponding risk factors. Some of these risk factors can be managed in order to minimize the risk of disease, which promotes health optimization. The intelligent system presented here performs the task of monitoring manageable risk factors, assessing their impact, and formulating recommendations to reduce this impact. The performance of the system is demonstrated on the examples of myocardial infarction, stroke and depression. The intelligent system evaluates the risks of diseases on the basis of individual risk factor values and provides recommendations to reduce these risks. A health manager who possesses additional information about specific aspects of the person’s health can adjust the recommendations issued by the system.”


ABSTRACT: “A growing body of information systems (IS) literature advocates the explicit use of suitable critical theories to explore power issues in developing countries and make IS research findings more accessible to systems’ users and the wider audiences for consumption. We respond to this debate in IS by applying critical research perspectives to discuss the power implications of Internet and e-mail resource distribution in a Ghanaian teaching hospital in a way that addresses clinicians’ concerns of using Internet services for healthcare practices. We applied critical qualitative approaches to collect and analyze data from clinicians, healthcare managers, and the hospital’s internal documents. It was found that managers exercised their powers to allocate Internet facilities selectively on the contestable account that clinicians might misuse the Internet if they were given access while clinicians sought to empower themselves as co-planners who could make technology choices and add new value to the existing normative decisions of the managers. The outcomes show that critical researchers can directly relate to decision-making powers, recognize their powers and expose structures that surround them, and emancipate people whose Internet resource needs are restricted to co-involve in technology adoption and distribution processes.”


ABSTRACT: "Modern healthcare systems are characterized as being highly complex and costly. However, this can be reduced through improved health record management, utilization of insurance agencies, and blockchain technology. Blockchain was first introduced to provide distributed records of money-related exchanges that were not dependent on centralized authorities or financial institutions. Breakthroughs in blockchain technology have led to improved transactions involving medical records, insurance billing, and smart contracts, enabling permanent access to and security of data, as well as providing a distributed database..."
of transactions. One significant advantage of using blockchain technology in the healthcare industry is that it can reform the interoperability of healthcare databases, providing increased access to patient medical records, device tracking, prescription databases, and hospital assets, including the complete life cycle of a device within the blockchain infrastructure. Access to patients' medical histories is essential to correctly prescribe medication, with blockchain being able to dramatically enhance the healthcare services framework. In this paper, several solutions for improving current limitations in healthcare systems using blockchain technology are explored, including frameworks and tools to measure the performance of such systems, e.g., Hyperledger Fabric, Composer, Docker Container, Hyperledger Caliper, and the Wireshark capture engine. Further, this paper proposes an Access Control Policy Algorithm for improving data accessibility between healthcare providers, assisting in the simulation of environments to implement the Hyperledger-based electronic healthcare record (EHR) sharing system that uses the concept of a chaincode. Performance metrics in blockchain networks, such as latency, throughput, Round Trip Time (RTT), have also been optimized for achieving enhanced results. Compared to traditional EHR systems, which use client-server architecture, the proposed system uses blockchain for improving efficiency and security.


Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.procs.2019.11.238

ABSTRACT: "The emerging of Internet of Things (IoT) technologies for unified and interconnected medical devices and sensors has changed the scenario in the healthcare industry. However, with the 'openness' of the distributed environment and medical devices, IoT will be the point of a breach where attackers are able to identify vulnerabilities and subsequently launch their attacks. This becomes high risk to the healthcare environment which may cause a big impact on its security measure. Nonetheless, the benefits of IoT solution in healthcare are undeniable. To address this issue, this study proposes an IoT Security Risk Management Model for Secured Practice in Healthcare Environment. This study reviewed all IoT risks from related works and has selected one Malaysian government hospital as a case study. From the findings, a model was formulated which consist of three parts, the Healthcare IoT Risk Management, the Hospital Performance Indicator for Accountability (HPIA) and the implementation phases. As a result, a priori model was successfully developed and yet to be validated by the case study participants in the next stage."

Bibliography on “emergency communication”


Full-text retrieved from Taylor & Francis Online: https://search.proquest.com/docview/2330991477/abstract/2A8596DC3E14415EP Q/1

ABSTRACT: "Disasters affect three-quarters of the world, they cause huge losses of life and property every year. Information and communication technology (ICT) - as the backbone of e-government is one of the factors that reduce the damage caused by these disasters. This
paper discusses the impact of demographic factors on citizens' readiness towards ICTs and disaster management, by conducting a questionnaire form that tests the readiness of the Iraqi citizen and the extent of their interest in this technology being threatened by disaster."


Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.ijinfomgt.2019.102060

ABSTRACT: "Rapid communication during extreme events is one of the critical aspects of successful disaster management strategies. Due to their ubiquitous nature, social media platforms are expected to offer a unique opportunity for crisis communication. In this study, about 52.5 million tweets related to hurricane Sandy posted by 13.75 million users are analyzed to assess the effectiveness of social media communication during disasters and identify the contributing factors leading to effective crisis communication strategies. Efficiency of a social media user is defined as the ratio of attention gained over the number of tweets posted. A model is developed to identify more efficient users based on several relevant features. Results indicate that during a disaster event, only few social media users become highly efficient in gaining attention. In addition, efficiency does not depend on the frequency of tweeting activity only; instead it depends on the number of followers and friends, user category, bot score (controlled by a human or a machine), and activity patterns (predictability of activity frequency). Since the proposed efficiency metric is easy to evaluate, it can potentially detect effective social media users in real time to communicate information and awareness to vulnerable communities during a disaster."

Bibliography on “gender"


Full-text retrieved from Taylor & Francis Online: https://doi.org/10.1080/09718524.2019.1695519

ABSTRACT: "Worldwide mega-events have a significant political purpose, demonstrating various commitments to topics, such as energy conservation and gender equality. Gendered imagery at these major events can provide insight into an organizational or country perspective. The portrayal of people in imagery reinforces ideas and teaches audiences who are allowed to take on various roles (e.g., doctors, teachers, or scientists). In other words, gender-balanced or -biased imagery could then either raise awareness to reduce a gender gap or reinforce gendered stereotypes. As such, this article examines gendered imagery at a mega event with a scientific-focus. The visual analysis uncovered the extent to which images of scientists shown across 10 European Union member-state country-pavilions at the Astana Expo (Kazakhstan) presented science as gender-balanced. Results demonstrated gendered depictions of science across the European states with varying levels of bias towards men, with no country-pavilion having a gender-equal presentation. Findings suggest the need to raise awareness about gender equality, including for science diplomacy."

Full-text retrieved from ScienceDirect: [https://doi.org/10.1016/j.jce.2019.12.003](https://doi.org/10.1016/j.jce.2019.12.003)

**ABSTRACT:** "Despite recent advances, women trail men in political participation, especially in developing countries where the long-term economic benefits from empowering women politically have not been well-researched. We use data from 163 villages of 12 main Indian states to explore whether requiring that village leadership positions be held by women (political reservation) affected uptake of economic opportunities via the National Rural Employment Guarantee Scheme. Reservation triggered increases in women's demand for work, program participation, and access to financial services that were sustained beyond the period of female political leadership. Enhanced female participation in program oversight, civic engagement, and electoral participation are plausible channels for such effects and political and economic empowerment seem to be complementary."


Full-text retrieved from ScienceDirect: [https://doi.org/10.1016/j.jbusres.2018.11.047](https://doi.org/10.1016/j.jbusres.2018.11.047)

**ABSTRACT:** "Through the lens of Status Construction Theory, we consider the role of gender status beliefs and the obdurate nature of gender differences as a category of status bias. We consider how the reproduction of gender status construction associates with marketplace resources. We study how individual experiences and marketplace resources operate, contribute, sustain or mitigate inequity in a consumption subculture. Using a multi-method ethnography to study expert women climbers whose competence is often refuted due to gender status bias. Our study makes three contributions: firstly, a nuanced illumination of the ways gender status is experienced by socially advantaged, competent women. Secondly, extending Status Construction Theory to include meso level analysis, demonstrating the interconnectedness of micro, meso and macro levels of marketplace implications. Lastly, through this theoretical contribution on the reproduction of gender status we present a detailed articulation of marketplace resources and how these can contain or counter subordinating gender positionality."


Full-text retrieved from ScienceDirect: [https://doi.org/10.1016/j.jbusres.2019.11.073](https://doi.org/10.1016/j.jbusres.2019.11.073)

**ABSTRACT:** "The role of sustainable economies in the success of women-owned businesses across countries is under-researched. This study examines how country economic and political contexts are related to processes that occur in the work–life interface of women entrepreneurs. The research uses data from 10 countries chosen on the basis of multidimensional country context constructs (i.e., select economic and political factors). Work–life facets are measured by family instrumental and emotional support (enrichment dimension) and by work–family conflict and other personal problems (interference dimension). The results
show that the likelihood of total family (instrumental and emotional) support decreases linearly as the country development level increases. By contrast, the country context is related to work–family conflict and related personal problems in an inverted U-shaped form. Conflict and problems are the highest in mid-level developed countries and lower in both low- and high-level developed economies.”

Bibliography on “ICT for development (ICT4D)”

Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.telpol.2019.101905

ABSTRACT: "A review of the literature on the relation between telecommunications and economic development published since the turn of this century is undertaken. Two stages have been considered: until 2008, most contributions continued to examine the role of telecommunications taken together; since 2009, the impact of broadband—and, to a lesser extent, of mobile communications—dominates the research agenda. All in all, the role of telecommunications as a catalyst to leverage economic growth has been conclusively proven over the years. Taking into consideration the shortcomings of previous research, suggestions for future work are also provided.”


Full-text retrieved from IEEE Xplore: http://dx.doi.org/10.1109/iCCECE46942.2019.8941963

ABSTRACT: “The purpose of conducting this systematic literature review is to analyze the previous research published on e-governance services, to find out the differences between e-government projects in developing and developed countries. This research focuses on the factors that causes developing countries to refrain from providing e-governance benefits to everyone on the receiving end. This paper also finds out the factors that could be adopted from developed countries to improve e-governance in developing countries. The basic aim of e-governance is to provide “Equality of Opportunity”, because citizens are the main participants in the e-government services so the main focus would be to find out the factors that extend equality to everyone. Mostly e-government projects are trusted by the well-educated citizens so we aimed to find the reasons of trust issues on government. Through a systematic literature review, a study on the current research on e-governance services was performed. The findings were discussed and efforts were made to impose improvements where the flaws occurred in e-services in developing countries that in turn give trust and economic growth to countries.”

ABSTRACT: “Mobile payment services hold the potential for financial inclusion in developing economies. Low-income countries are characterized by distinctive conditions like price sensitivity, low digital penetration, high risk of failure, and competitive emerging markets, which further influence mobile payment usage. We develop a research model to identify the contextual facilitators (like price benefit, network externalities, trust, and habit) and barriers (like risk, lack of facilitating conditions, and operational constraints) driving mobile payment usage intention. We test the model using data from 298 survey respondents from India who had adopted and were currently using mobile payment services. The factors that facilitate or constrain users’ intention to continue using mobile payments are essential in understanding the technology’s sustenance and its future in enabling financial inclusion.”

Bibliography on “intelligent transportation systems (ITS)”


ABSTRACT: "With the emergence of the internet of things, pathfinding problems have recently received a significant amount of attention. Various commercial applications provide automated routing by considering travel time, travel distance, fuel consumption, complexity of the road, etc. However, many of these prospective applications do not consider route safety. Emergence of high-resolution big data generated by connected vehicles (CV) helps us to integrate safety into routing problem. The goal of this study is to address safety aspects in pathfinding problems by developing a methodological framework that simultaneously considers safety and mobility. To reach this goal, the concept of volatility is utilized as a surrogate safety performance measure to quantify route safety and driver behavior. The proposed framework uses CV big data and real-time traffic data to calculate safety indices and travel times. Measured safety indices include 5-year crash history, route speed and acceleration volatility, and driver volatility. Travel time and safety shape a cost function called “route impedance.” The algorithm has the flexibility for the user to predefine the weight for safety consideration. It also uses driver volatility to automatically increase safety weight for volatile drivers. To illustrate the algorithm, a numerical example is provided using an origin-destination pair in Ann Arbor, MI, and more than 42 million CV observations from around 2,500 CVs from the Safety Pilot Model Deployment (SPMD) were analyzed. The sensitivity analysis is performed to discuss the impact of penetration rate of CVs and time of the trip on the results. Finally, this paper shows suggested routes for multiple scenarios to demonstrate the outcome of the study. The results revealed that the algorithm might suggest different routes when considering safety indices and not just travel time."


ABSTRACT: "Smart cities are developing at increasing speed. Smart cities rely on the deployment of information and communication technology (ICT) that is digitally transforming our habitats."
Digital transformation affects several areas from transportation, energy, government to the environment. But, primarily, it affects citizens. Therefore, the adoption of all areas of the smart city holds great research potential. The purpose of this paper is thus to provide an insight into millennials’ adoption of autonomous vehicles (AV), which are at the forefront of future transport. Millennials are an important focus group for smart city concepts since they are keen to adopt technology and new transport modes. Our research focuses on technology adoption, perception of the benefits, security, safety, mobility-related efficiencies and concerns as the key AV adoption factors. The impact of these factors is empirically tested with structural equation modelling using data from 382 millennials. We confirm the perceived benefits of AV are vital factors for AV adoption whereas the perceived safety of AV significantly reduces the influence of various concerns regarding AV.


Full-text retrieved from Taylor & Francis Online: [https://doi.org/10.1080/13600869.2019.1696651](https://doi.org/10.1080/13600869.2019.1696651)

**ABSTRACT:** "The conglomeration of regulatory frameworks for the testing of prototype autonomous vehicles in Europe creates a challenging task for developers and researchers planning pilots across borders. While there are examples of international autonomous driving projects and cooperation in autonomous vehicle research, Europe lacks a mutually recognised testing procedure for autonomous vehicle pilots, and incompatible legal and administrative processes in each country creates a disincentive for ambitious cross-border testing. The diverse climate and topography of Europe potentially provides a rigorous testing ground for autonomous vehicles, and an opportunity to prepare the new technology to deal with varied signage, language and driver behaviour encountered when travelling across multiple countries. Prototype vehicles tested in such conditions provide valuable insight for research and product development. This may be encouraged by a more harmonised prototype testing framework including a pan-European type-approval exemption scheme for prototype vehicles, and for cross-border tests to be coordinated by regional organisations interested in promoting development in border areas."

Bibliography on “internet of things (IoT)"


**ABSTRACT:** "Internet of things (IoT) is a developing technology with a lot of scope in the future. It can ease various different tasks for us. On one hand, IoT is useful for us, on the other hand, it has many serious security threats, like data breaches, side-channel attacks, and virus and data authentication. Classical cryptographic algorithms, like the Rivest-Shamir-Adleman (RSA) algorithm, work well under the classical computers. But the technology is slowly shifting towards quantum computing, which has immense processing power and is more than enough to break the current cryptographic algorithms easily. So it is required that we have to design quantum cryptographic algorithms to prevent our systems from security breaches even before
quantum computers come in the market for commercial uses. IoT will also be one of the disciplines, which needs to be secured to prevent any malicious activities. In this paper, we review the common security threats in IoT and the presently available solutions with their drawbacks. Then quantum cryptography is introduced with some of its variations. And finally, the analysis has been carried out in terms of the pros and cons of implementing quantum cryptography for IoT security.


Full-text retrieved from ProQuest Central database: [https://search.proquest.com/central/docview/2324143862/abstract/B3FFE1280688403CPQ/1](https://search.proquest.com/central/docview/2324143862/abstract/B3FFE1280688403CPQ/1).

ABSTRACT: "Industry Trend Analysis - IoT: The Industry Connection - December 2019

Industry Trend Analysis - 5G Will Underpin The Healthcare Revolution

Industry Trend Analysis - Large Pharmaceutical Firms Will Continue To Leverage AI To Fuel Next Wave Of Innovative Medicines

Industry Trend Analysis - Southeast Asia Remains Vulnerable To Medical Device Cyber Attacks

Industry Trend Analysis - Digitalisation Of Healthcare Remains A Top Investment Area For The UK

Industry Trend Analysis - Digitalisation Of Medical Services Will Improve Healthcare Access In India

Industry Trend Analysis - What Our Clients Want To Know: LPWAN To Exist Alongside Enterprise 5G

Industry Trend Analysis - China's Push For Blockchain – What We Know So Far

Industry Trend Analysis - Mining Surveillance Technology: Autonomous Drones To Lead The Way"


Full-text retrieved from ScienceDirect: [https://doi.org/10.1016/j.ifacol.2019.11.556](https://doi.org/10.1016/j.ifacol.2019.11.556)

ABSTRACT: "Aircraft spare parts inventory management is crucial for airlines as it directly impacts fleet availability and customer satisfaction. Internet of Things (IoT) and big data analytics could decrease the risk of unavailability and the inventory costs for airlines. This paper aims to highlight the role of IoT in aircraft spare parts inventory management. According to Klipi et al. (2009), four generic practices are used by airlines for supplying spare parts: in-house sourcing, ad-hoc, cooperative pooling, and commercial pooling. The implications of IoT in these four strategies are assessed. The business model of KLM engineering and maintenance department provided by (Van Rijssel, 2016) is used to elaborate the application of IoT from four perspectives of component and reliability; airlines engineering and maintenance; logistics arrangement and market."


Full-text retrieved from ScienceDirect: [https://doi.org/10.1016/j.procs.2019.12.023](https://doi.org/10.1016/j.procs.2019.12.023)
ABSTRACT: "The next generation of IoT is characterized by the usage of smart solutions with embedded intelligence at the edge that relies on high connectivity, processing capabilities for edge devices and real-time analysis of information. This evolution is based on the convergence of some key ICT technologies like hyperconnectivity and new network architectures, edge computing, artificial intelligence, and blockchain. Considering the high expectations regarding the wide use in various domains of the new, interoperable IoT platforms built on these technologies, it is assumed that they will influence also the decision-making processes specific to these domains. The paper provides a short overview of these technologies with the aim to identify such potential influences. Then a case study in the field of health monitoring is presented, which consists in proposing a new version of a current pilot solution built around the sensing service offer integrator role. This new version is compliant with the RO-Smart Ageing architecture and will provide specific support for all three decision levels implemented in the medical unit practice, with special emphases on risk evaluation in real time monitoring regime."


ABSTRACT: "The emerging of Internet of Things (IoT) technologies for unified and interconnected medical devices and sensors has changed the scenario in the healthcare industry. However, with the 'openness' of the distributed environment and medical devices, IoT will be the point of a breach where attackers are able to identify vulnerabilities and subsequently launch their attacks. This becomes high risk to the healthcare environment which may cause a big impact on its security measure. Nonetheless, the benefits of IoT solution in healthcare are undeniable. To address this issue, this study proposes an IoT Security Risk Management Model for Secured Practice in Healthcare Environment. This study reviewed all IoT risks from related works and has selected one Malaysian government hospital as a case study. From the findings, a model was formulated which consist of three parts, the Healthcare IoT Risk Management, the Hospital Performance Indicator for Accountability (HPIA) and the implementation phases. As a result, a priori model was successfully developed and yet to be validated by the case study participants in the next stage."

Bibliography on “machine learning”

ABSTRACT: "We present a link-centric approach to study variation in the mobile phone communication patterns of individuals. Unlike most previous research on call detail records that focused on the variation of phone usage across individual users, we examine how the calling and texting patterns obtained from call detail records vary among pairs of users and how these patterns are affected by the nature of relationships between users. To demonstrate
this link-centric perspective, we extract factors that contribute to the variation in the mobile phone communication patterns and predict demographics-related quantities for pairs of users. The time of day and the channel of communication (calls or texts) are found to explain most of the variance among pairs that frequently call each other. Furthermore, we find that this variation can be used to predict the relationship between the pairs of users, as inferred from their age and gender, as well as the age of the younger user in a pair. From the classifier performance across different age and gender groups as well as the inherent class overlap suggested by the estimate of the bounds of the Bayes error, we gain insights into the similarity and differences of communication patterns across different relationships."


Full-text retrieved from ScienceDirect: https://cacm.acm.org/magazines/2020/1/241703-techniques-for-interpretable-machine-learning/fulltext

ABSTRACT: "Machine learning is progressing at an astounding rate, powered by complex models such as ensemble models and deep neural networks (DNNs). These models have a wide range of real-world applications, such as movie recommendations of Netflix, neural machine translation of Google, and speech recognition of Amazon Alexa. Despite the successes, machine learning has its own limitations and drawbacks. The most significant one is the lack of transparency behind their behaviors, which leaves users with little understanding of how particular decisions are made by these models. Consider, for instance, an advanced self-driving car equipped with various machine learning algorithms does not brake or decelerate when confronting a stopped firetruck. This unexpected behavior may frustrate and confuse users, making them wonder why. Even worse, the wrong decisions could cause severe consequences if the car is driving at highway speeds and might ultimately crash into the firetruck. The concerns about the black-box nature of complex models have hampered their further applications in our society, especially in those critical decision-making domains like self-driving cars."


Full-text retrieved from ProQuest Central: https://search.proquest.com/central/docview/2330760607/abstract/30784E79EBD645A8PQ/1

ABSTRACT: "Technological change has given rise to the much-discussed "gig" or "platform economy," but labor law has yet to catch up. Platform firms, most prominently Uber, use machine learning algorithms processing torrents of data to power smartphone apps that promise efficiency, flexibility, and autonomy to users who both deliver and consume services. These tools give firms unprecedented information and power over their services, yet they are little-examined in legal scholarship, and case law has yet to meaningfully address them. The potential for exploitation of workers is immense, however the remedies available to workers who are harmed by algorithm design choices are as yet undeveloped. This Note analyzes a set of economic harms to workers uniquely enabled by algorithmic work platforms and explores common law torts as a remedy, using Uber and its driver-partners as a case study. Part II places the emerging "platform economy" in the context of existing labor law. Part III
analyzes the design and function of machine learning algorithms, highlighting the Uber application. This Part of the Note also examines divergent incentives between Uber and its users alongside available algorithm design choices, identifying potential economic harms to workers that would be extremely difficult for workers to detect. Part IV surveys existing proposals to protect platform workers and offers common law causes of action sounding in tort and contract as recourse for workers harmed by exploitative algorithm design.


Full-text retrieved from ProQuest Central: https://search.proquest.com/central/docview/2331713340/abstract/7B63F0BFF84649A7PQ/1

ABSTRACT: "The proliferation of social media enables people to express their opinions widely online. However, at the same time, this has resulted in the emergence of conflict and hate, making online environments uninviting for users. Although researchers have found that hate is a problem across multiple platforms, there is a lack of models for online hate detection using multi-platform data. To address this research gap, we collect a total of 197,566 comments from four platforms: YouTube, Reddit, Wikipedia, and Twitter, with 80% of the comments labeled as non-hateful and the remaining 20% labeled as hateful. We then experiment with several classification algorithms (Logistic Regression, Naïve Bayes, Support Vector Machines, XGBoost, and Neural Networks) and feature representations (Bag-of-Words, TF-IDF, Word2Vec, BERT, and their combination). While all the models significantly outperform the keyword-based baseline classifier, XGBoost using all features performs the best (F1 = 0.92). Feature importance analysis indicates that BERT features are the most impactful for the predictions. Findings support the generalizability of the best model, as the platform-specific results from Twitter and Wikipedia are comparable to their respective source papers. We make our code publicly available for application in real software systems as well as for further development by online hate researchers."

Bibliography on “management and leadership"


Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.bushor.2019.12.001

ABSTRACT: "AI-enabled recruiting systems have evolved from nice to talk about to necessary to utilize. In this article, we outline the reasons underlying this development. First, as competitive advantages have shifted from tangible to intangible assets, human capital has transitioned from supporting cast to a starring role. Second, as digitalization has redesigned both the business and social landscapes, digital recruiting of human capital has moved from the periphery to center stage. Third, recent and near-future advances in AI-enabled recruiting have improved recruiting efficiency to the point that managers ignore them or procrastinate their utilization at their own peril. In addition to explaining the forces that have pushed AI-enabled recruiting systems from nice to necessary, we outline the key strategic steps managers need to take in order to capture its main benefits."

Full-text retrieved from ScienceDirect: https://search.proquest.com/central/docview/2326847323/abstract/2BDC82164D874293PQ/1

ABSTRACT: "First of all, let's deal with a common misconception: Even in the event of a large scale hack the chain is still operated by most nodes and the integrity of data is verifiable through the on-going audit trail. * Blockchain can play a vital role by allowing quicker settlement of transactions and trades as it removes the need for lengthy process of verification, settlement, and clearance. Data tracking enabled by blockchain technology may also help to automate certain accounting services using AI, which could reduce human error and instances of fraud. The Big Four accounting firms are already investigating the options: KPMG has invested in programs and projects to research and share information about blockchain; Deloitte has developed blockchain-based software; while PwC has created a blockchain-based auditing service; and Ernst & Young applies it to integrate information and process within and across enterprise boundaries."


Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.jbusres.2019.11.073

ABSTRACT: "The role of sustainable economies in the success of women-owned businesses across countries is under-researched. This study examines how country economic and political contexts are related to processes that occur in the work–life interface of women entrepreneurs. The research uses data from 10 countries chosen on the basis of multi-dimensional country context constructs (i.e., select economic and political factors). Work–life facets are measured by family instrumental and emotional support (enrichment dimension) and by work–family conflict and other personal problems (interference dimension). The results show that the likelihood of total family (instrumental and emotional) support decreases linearly as the country development level increases. By contrast, the country context is related to work–family conflict and related personal problems in an inverted U-shaped form. Conflict and problems are the highest in mid-level developed countries and lower in both low- and high-level developed economies."


Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.leaqua.2019.101377

ABSTRACT: "Digital technologies are changing the nature of teamwork in ways that have important implications for leadership. Though conceptually rich and multi-disciplinary, much of the burgeoning work on technology has not been fully integrated into the leadership literature. To fill this gap, we organize existing work on leadership and technology, outlining four perspectives: (1) technology as context, (2) technology as sociomaterial, (3) technology as
creation medium, and (4) technology as teammate. Each technology perspective makes
assumptions about how technologies affect teams and the needs for team leadership. Within
each perspective, we detail current work on leading teams. This section takes us from virtual
teams to new vistas posed by leading online communities, crowds, peer production groups,
flash teams, human-robot teams, and human-artificial intelligence teams. We identify 12
leadership implications arising from the ways digital technologies affect organizing. We then
leverage our review to identify directions for future leadership research and practice."

Pagán-Castaño, E., Maseda-Moreno, A., & Santos-Rojo, C. "Wellbeing in work

Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.jbusres.2019.12.007

ABSTRACT: "Recent studies have shown the positive effect of some human resource practices on
employees’ health and performance at work. In this context, it is necessary to determine the
relationship between human resource management, employee performance, and wellbeing at
work. The aim of this paper is to understand the factors that better describe and influence
employee wellbeing, which also contributes to improving their performance at work,
considering their multidimensional nature. The article reviews the literature on the relationship
between the three concepts and points out the relevant role of wellbeing. As a result, this
research shows that there is a gap in the literature, as no previous study has explored the
relationship between human resource management, employee performance, and wellbeing at
work within a uniform and coherent framework. This research explores wellbeing-oriented
human resource management practices and also reviews supports the mediating role of
wellbeing between HRM and organisational performance in this relationship."

Bibliography on “satellite communications”
An, T., Hong, X., Zheng, W., Ye, S., Qian, Z., Fu, L., et al. "Space very long baseline

Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.asr.2019.03.030

ABSTRACT: "Space very long baseline interferometry (VLBI) has unique applications in high-
resolution imaging of the fine structure of astronomical objects and high-precision astrometry
due to the key long space–Earth or space–space baselines beyond the Earth’s diameter.
China has been actively involved in the development of space VLBI in recent years. This
review briefly summarizes China’s research progress in space VLBI and the future
development plan."

doi:10.1109/MSPEC.2020.8946310.

Full-text retrieved from IEEE Xplore: http://dx.doi.org/10.1109/MSPEC.2020.8946310

ABSTRACT: "In 2020, Earth and Mars will align. Every 26 months, a launch window for a low-energy
"Hohmann" transfer orbit opens between the two. This July, no fewer than four missions are
hoping to begin the nine-month journey."
Bibliography on “smart cities”

Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.ijinfomgt.2019.102050

ABSTRACT: "Smart cities are developing at increasing speed. Smart cities rely on the deployment of information and communication technology (ICT) that is digitally transforming our habitats. Digital transformation affects several areas from transportation, energy, government to the environment. But, primarily, it affects citizens. Therefore, the adoption of all areas of the smart city holds great research potential. The purpose of this paper is thus to provide an insight into millennials’ adoption of autonomous vehicles (AV), which are at the forefront of future transport. Millennials are an important focus group for smart city concepts since they are keen to adopt technology and new transport modes. Our research focuses on technology adoption, perception of the benefits, security, safety, mobility-related efficiencies and concerns as the key AV adoption factors. The impact of these factors is empirically tested with structural equation modelling using data from 382 millennials. We confirm the perceived benefits of AV are vital factors for AV adoption whereas the perceived safety of AV significantly reduces the influence of various concerns regarding AV."


Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.procs.2019.11.126

ABSTRACT: "In developing a smart city, it certainly has many aspects that must be met. One of these aspects is the aspect of security in the city which is usually called a safe city. The Safe City concept in Smart City provides a new way for the government to develop a city security system. "Safe city concept is one approach and as part of the live concept of the city focusing on the crime problem in urban areas"[1]. In other words, Safe City is an idea in a community that uses technology to help governments, communities and businesses reduce the possibility of crime and provide an environment where people feel safe and comfortable. In developing the concept of a safe city, the government must first assess how safe the city is. General assessment of the level of city security in the world has been carried out by a leading company in Japan, NEC. In the security campaign conducted by NEC in 2017 [2], Indonesia has a relatively low-security value compared to other countries. The researchers assessed that the low value of city security in Indonesia is less relevant when viewed from the current state of the city. For this reason, the researchers collect other values that are owned by Indonesia and not owned by other countries to be used as an assessment material that Indonesia has a safe city. In the preparation of the literature review, this will produce a conceptual safe city model to provide a measure of city security assessment by the characteristics of cities in Indonesia."

ABSTRACT: "As a new mode of urbanization, smart city both influences the environmental load and economic performance of cities through technology effect, resource allocation effect and industrial structure upgrade effect. So comes the natural question: has smart city construction improved the eco-efficiency of cities in China? How does the impact change over time? Is the impact heterogeneous across cities? Based on Green Solow model, this paper adopts the Super-efficiency SBM model to measure the eco-efficiency of 152 prefecture-level cities in China covering the period 2003-2016, and then DID model is applied to investigate the impact of smart city pilot policy on eco-efficiency. On the whole, the smart city construction significantly improves the eco-efficiency, and the multi-stage DID results reveal that the promotion effect is increasing over time due to the annual superposition. Furthermore, the impact is heterogeneous across cities. Although the promotion effect on medium-sized cities is less than that of large cities, the promotion effect has actually weakened when the urban population size exceeds 5 million. Moreover, the lower the level of city’s economic development, the greater the role of smart city construction in promoting eco-efficiency. The research conclusion is of great practical significance for the reform of urban governance model and the realization of high-quality urban development."

Bibliography on “social media”


ABSTRACT: "Social media have fundamentally influenced the way we live. Thus far, research has mainly focused on the ‘bright side’ of social media and the many advantages these platforms bring. More and more, however, research is also beginning to address the ‘dark side’ of social media. Dark side phenomena include cyberbullying, manipulation of elections, fear of missing out, social media addiction and the distribution of fake news. In this editorial for the management focus section of the European Management Journal, we propose two strategies (sensitizing and regulating) to manage this dark side of social media. Additionally, this editorial introduces the four articles included in this management focus section. We hope that the featured articles will help to encourage further research in this area."


ABSTRACT: "This study examined the echo chamber phenomenon and opinion leadership on Twitter based on the 2016 U.S. presidential election. Network analysis and ‘big data’ analytics were employed to analyze more than 50 million tweets about the two presidential candidates, Donald Trump and Hillary Clinton, during the election cycle. Overall, the results suggested that Twitter communities discussing Trump and Clinton differed significantly in the level of political homogeneity and opinion leadership, and that certain opinion leaders were responsible of creating homogeneous communities on Twitter. This study made a theoretical contribution to the literature by linking opinion leadership and Twitter’s network structure and shedding light..."
on what may have caused the echo chamber problem to happen in an emerging media landscape.


Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.procs.2019.11.119

ABSTRACT: "The purpose of this study was to measure the public participation intention of e-government service by integrating between variables of social media activity and DeLone and McLean’s Information Systems Success Model. The method used was the structural equation model (SEM). From 9 proposed hypotheses, the results showed that all had positive and significant impacts. The experimental aftereffects of this examination make two ends and significant commitments. In the first place, the impacts of information distribution activities through social media are largely ignored in various e-government studies. This study confirms that information distribution activities with social media have a significant influence on public satisfaction which ultimately affects public participation intention."


Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.ijinfomgt.2019.102060

ABSTRACT: "Rapid communication during extreme events is one of the critical aspects of successful disaster management strategies. Due to their ubiquitous nature, social media platforms are expected to offer a unique opportunity for crisis communication. In this study, about 52.5 million tweets related to hurricane Sandy posted by 13.75 million users are analyzed to assess the effectiveness of social media communication during disasters and identify the contributing factors leading to effective crisis communication strategies. Efficiency of a social media user is defined as the ratio of attention gained over the number of tweets posted. A model is developed to identify more efficient users based on several relevant features. Results indicate that during a disaster event, only few social media users become highly efficient in gaining attention. In addition, efficiency does not depend on the frequency of tweeting activity only; instead it depends on the number of followers and friends, user category, bot score (controlled by a human or a machine), and activity patterns (predictability of activity frequency). Since the proposed efficiency metric is easy to evaluate, it can potentially detect effective social media users in real time to communicate information and awareness to vulnerable communities during a disaster."


Full-text retrieved from ProQuest Central: https://search.proquest.com/central/docview/2331713340/abstract/7B63F0BFF84649A7PQ/1
ABSTRACT: “The proliferation of social media enables people to express their opinions widely online. However, at the same time, this has resulted in the emergence of conflict and hate, making online environments uninviting for users. Although researchers have found that hate is a problem across multiple platforms, there is a lack of models for online hate detection using multi-platform data. To address this research gap, we collect a total of 197,566 comments from four platforms: YouTube, Reddit, Wikipedia, and Twitter, with 80% of the comments labeled as non-hateful and the remaining 20% labeled as hateful. We then experiment with several classification algorithms (Logistic Regression, Naïve Bayes, Support Vector Machines, XGBoost, and Neural Networks) and feature representations (Bag-of-Words, TF-IDF, Word2Vec, BERT, and their combination). While all the models significantly outperform the keyword-based baseline classifier, XGBoost using all features performs the best (F1 = 0.92). Feature importance analysis indicates that BERT features are the most impactful for the predictions. Findings support the generalizability of the best model, as the platform-specific results from Twitter and Wikipedia are comparable to their respective source papers. We make our code publicly available for application in real software systems as well as for further development by online hate researchers.”


Full-text retrieved from Taylor & Francis Online: https://doi.org/10.1080/1369118X.2018.1500622

ABSTRACT: "Theorizing information flows is at the heart of traditional communication theories such as the two-step flow of communication and the concept of opinion leadership. Social media have fundamentally altered how information reaches people. This study examines opinion leadership in social media networks and argues that opinion leaders may no longer need to rely on information provided by the media if they have access to first-hand information. To test this assumption empirically, we used data from the 2015 United Nations Climate Change Conference (COP21). Attendees of the conference had direct information about what was happening, which they were able to share live with their followers via social media. We used geo-located tweets to identify Twitter users who attended the COP21 summit. We then located these users in a data set of tweets that were collected based on the main conference hashtag (#COP21) and represent the wider social media debate on the conference. Our results, which are based on network analysis measures and Twitter user data, show that COP21 participants were more central actors compared to the average user in the network, and that they were more likely to have brokering positions. They were also more involved in the debate and received more attention from other users. We used automated content analysis to divide COP21 participants into different actor types and performed the analysis by actor group. The results show only minor differences across the actors and support the robustness of our analysis.”


Full-text retrieved from Taylor & Francis Online: https://doi.org/10.1080/1369118X.2019.1705374
ABSTRACT: "Social media have become forums of discussions on political and societal debates in which individual users may forward information or influence others. While prior studies either employed network analyses or surveys to identify opinion leaders and their characteristics, the present investigation combines these two approaches to address the relationship between observable and self-perceived influence. For this purpose, a retweet network of Twitter communication on the Brexit debate (N = 15,018) was analyzed in relation to a survey on motives and personality traits that was filled out by a subsample of active users (N = 98). Results showed that users’ eigenvector centrality (as a measure of influence in the network) was significantly related to their political interest and their number of followers, but not to self-perceived opinion leadership. According to a comparison of self-assessment and network position, those with stronger motivations to distribute relevant information tended to overestimate their influence in the network. Implications for the identification of opinion leaders are discussed."

Bibliography on “telecommunication/ICT markets”

Full-text retrieved from ScienceDirect: https://doi.org/10.1016/j.telpol.2019.101905

ABSTRACT: "A review of the literature on the relation between telecommunications and economic development published since the turn of this century is undertaken. Two stages have been considered: until 2008, most contributions continued to examine the role of telecommunications taken together; since 2009, the impact of broadband—and, to a lesser extent, of mobile communications—dominates the research agenda. All in all, the role of telecommunications as a catalyst to leverage economic growth has been conclusively proven over the years. Taking into consideration the shortcomings of previous research, suggestions for future work are also provided."

Bibliography on “telecommunication/ICT policy and law”


ABSTRACT: "Social media have fundamentally influenced the way we live. Thus far, research has mainly focused on the ‘bright side’ of social media and the many advantages these platforms bring. More and more, however, research is also beginning to address the ‘dark side’ of social media. Dark side phenomena include cyberbullying, manipulation of elections, fear of missing out, social media addiction and the distribution of fake news. In this editorial for the management focus section of the European Management Journal, we propose two strategies (sensitizing and regulating) to manage this dark side of social media. Additionally, this editorial introduces the four articles included in this management focus section. We hope that the featured articles will help to encourage further research in this area."

ABSTRACT: "This paper discusses the current issues and proposes legal remedies for removing the barriers to gathering cross-border electronic evidence in crime investigation. Crime and cybercrime have a huge influence on our modern economy as the yearly damage is estimated to cost hundreds of billions of USD. Efficient fight against cybercrime in the interconnected society faces several barriers due to the inconsistent understanding in cross-border e-evidence search, the legality of the data sought, and the rules for cooperation with the service providers of communication services. The paper evaluates the current legal scene and the existing regulative enabling collection of cross-border electronic evidence. The attitudes and the views towards the current legal instruments enabling efficient cybercrime and crime investigation and cross-border e-evidence collection among the legal practitioners are analysed based on empirical data collected with two surveys. Answers to the research questions ‘if the barriers for cross-border access to e-evidence can be removed with new regulation’ are provided by analysing both the survey results and the new EU regulation for investigation, production and preservation orders."


ABSTRACT: "All of us enjoy the daily benefits of the mobile internet and other global telecommunications and data services. But the delivery of consistent and reliable internet and telecommunication services relies on the development and implementation of international and interoperable technical standards. This paper discusses governance in international technical and internet standards-making. A theory of governance of standards-making through three modes — namely multilateral, multistakeholder and emergent — is developed. The most efficient and effective approach to governance of international standards-making will be looked at using a theory of governance of the commons and common pool resources."


ABSTRACT: "The conglomeration of regulatory frameworks for the testing of prototype autonomous vehicles in Europe creates a challenging task for developers and researchers planning pilots across borders. While there are examples of international autonomous driving projects and cooperation in autonomous vehicle research, Europe lacks a mutually recognised testing procedure for autonomous vehicle pilots, and incompatible legal and administrative processes in each country creates a disincentive for ambitious cross-border testing. The diverse climate and topography of Europe potentially provides a rigorous testing ground for autonomous vehicles, and an opportunity to prepare the new technology to deal with varied signage,
language and driver behaviour encountered when travelling across multiple countries. Prototype vehicles tested in such conditions provide valuable insight for research and product development. This may be encouraged by a more harmonised prototype testing framework including a pan-European type-approval exemption scheme for prototype vehicles, and for cross-border tests to be coordinated by regional organisations interested in promoting development in border areas.”


Full-text retrieved from Taylor & Francis Online: https://doi.org/10.1080/13600834.2020.1705033

ABSTRACT: "The aim of this article is to verify whether existing international legal mechanisms provide effective protection of privacy in cyberspace in supra-regional terms. For years, human rights systems have been perceived as effective mechanisms for strengthening the area of fundamental rights. Nevertheless, in the case of activities taking place in cyberspace, the protective standards arising from international treaties seem to be insufficient. Despite the dynamic expansion of legislation in the area of data protection, the scope of the standards being used is still local – national or regional, rather than global. Hence, it is necessary to consider whether attaining an equal level of privacy protection in cyberspace and in physical space does not require putting forward new legal mechanisms that not only overcome the limitations of existing international agreements, but also enhance the trust in and credibility of the global data market, given that it is essential to the development of modern society."