Recommendation AI models: case studies

Juan M. Corchado
University of Salamanca
IoT Digital Innovation Hub (Spain)
corchado@usal.es

Seminar III

Today, the industries of all European countries face common challenges: improving resource efficiency, becoming more environmentally friendly, mitigating climate change, improving the digitization in all segments of the value chain and improving transparency and safety, providing consumers with detailed information and ensuring the safety and quality of the final product.

Growing concerns about environmental and social issues are pushing the demands of stakeholders (customers, workers, shareholders, consumers, etc.) and the public towards more sustainable processes and products. Sustainability is closely linked to climate change: the introduction of sustainable measures, both by consumers and producers, is inherently a measure against climate change.

Although 65% of consumers say they want to buy sustainable products, only 26% follow them. The difficulty of assessing which products are the most sustainable or correspond to customers' personal values in the field of sustainability also contributes to this. In addition, studies suggest that consumers often consider aspects of sustainability to be too complex when making purchasing decisions. To simplify decision-making, a number of sustainability labels have emerged, such as eco-labels, fair trade and environmental certification. Others have tried to come up with a sustainability assessment (e.g., ISO 21930: 2017). Although there is evidence that these brands contribute to sustainable development, further research has shown only a limited effect on consumer behavior. This is partly because it is often not clear what exactly these labels mean.

Information tools are one of the types of tools available in an effort to change consumers' perceptions, motivations, knowledge and standards. Accordingly, it is increasingly important for consumers to be able to make informed choices about the products they buy, especially in terms of sustainability.

Together with the commitment of businesses and organizations to more responsible and sustainable processes and production, the implementation of the European Green Deal and the Sustainable Development Goals is an urgent challenge to all actors in society to contribute to changing the way we meet our needs.

In one way or another, the activities of industries, be it directly or indirectly, can contribute to the achievement of all of the 17 Sustainable Development Goals. However, the goals that are most closely related to industries and that could determine the consumers' choice of a product, are discussed below:

- **Goal 3 GOOD HEALTH AND WELL-BEING:** All types of industries can have an effect on people's health on several levels. They can promote a healthy working environment, ensure the security of their workers to prevent any accidents or illnesses, as well as collaborate with their local communities to promote healthier habits. Food industries can play an extremely important role in contributing to health, by eliminating any food additives that may be harmful to health and incorporating ingredients that are beneficial for health. In addition, industrial activity is known to contribute to air, water and soil pollution. Industries which take actions to reduce the negative impact they have on the environment, will be contributing to the health of the community in which they operate.

- **Goals 4 GENDER EQUALITY:** By developing and following gender equality policies, industries contribute to creating a fairer society in which gender does not determine opportunity or lack of thereof. Letting consumers know about these policies may determine their choice of supporting one company or another. Moreover, companies can get involved with local organizations to promote gender equality within the industry in which they operate.

- **Goal 6 CLEAN WATER AND SANITATION:** Water contamination continues to be a problem in Europe today, as many industries still fail to comply with laws on sewage and sanitation, releasing harmful chemicals into rivers. This may lead to serious illnesses, such as cancer, in the local community who use the contaminated water to bathe and drink. By implementing sensors at their water treatment

plants, industries will be able to demonstrate to local consumers that they do not contaminate their water resources.

- **Goal 7 AFFORDABLE AND CLEAN ENERGY:** By updating their energy infrastructure to renewable energy, industries will be able to minimize the negative impact they have on the environment. Moreover, given that the market is becoming increasingly decentralized, industries can become prosumers and sell any extra energy they produce to local consumers.

- **Goal 8 DECENT WORK AND ECONOMIC GROWTH:** Industries can improve work and support economic growth in a number of ways. Firstly, they are important providers of jobs, and their operation helps drive the economy of the city in which they operate and beyond. Industries can gain the locals' support by informing them of the value they add to their community, in terms of job opportunities and economic growth.

- **Goal 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE**: Industries can design and deploy solutions involving disruptive technologies, capable of optimizing all the areas of industrial operation, ranging from outsourcing to product design, manufacturing, packaging, storage and logistics. The collected data can be used to make decisions in real-time which is very important in case of machine failure or accidents at work. Moreover, through industries can develop effective worker safety systems and deploy IoT Smart Personalized Protective Equipment for the real-time monitoring of the workers' health.

- **Goal 10 REDUCED INEQUALITIES:** All sorts of inequalities continue to exist across our societies. It is important that we strive for a better world where everyone receives equal opportunity and treatment. Some of these inequalities include income inequality, economic inequality, gender inequality, lack of access to education and technology, discrimination on the basis of race, age, gender, sexual orientation or religious belief. Industries must develop policies that will ensure inclusion and equal treatment in the workplace. Moreover, they can implement technologies to continually monitor the employees' perception of the work environment, so that any incidents of discrimination are rapidly identified and resolved. Moreover, companies can create educational opportunities for their employees. Ensuring a workplace in which everyone feels welcome contributes to the good image of a company.

- **Goal 11 SUSTAINABLE CITIES AND COMMUNITIES:** Industries are an inseparable and very important part of any city. Therefore, the sustainability of industries has a general effect on the city in which it is located, contributing to lower contamination levels and better logistics within the city, for example. To make their processes sustainable, industries must turn to new technologies, such as Artificial Intelligence, Machine Learning, Internet of Things, Cloud Computing, Edge Computing and Blockchain.

- **Goal 12 RESPONSIBLE CONSUMPTION AND PRODUCTION:** Technologies can help industries become greener measuring their waste generation and emissions in all their processes. Technologies such as Machine Learning and Deep Learning ca be used to analyze the processes taking place in an industry and make any changes that may cause unnecessary loss of resources, contamination or that take too long. Moreover, industries can play an active role in their communities by informing consumers of the importance of choosing products that were made sustainably and in environments which ensure equality, inclusion and safety of the workers. Moreover, industries can implement technologies such as Blockchain and Edge Computing to ensure the security of their data while being transparent to consumers about their production processes.

- **Goals 13&14&15 CLIMATE ACTION, LIFE BELOW WATER, AND LIFE ON LAND:** According to the United Nations Development Programme, greenhouse gas emissions are 50 percent higher than they were in 1990. Industries can use disruptive technologies to monitor their greenhouse emissions. There are Artificial Intelligence models that are capable of analyzing the data and making recommendations to users regarding actions that will decrease their energy use and emissions. Moreover, the Internet of Things, in combination with other Artificial Intelligence techniques, can be used on industrial ships to prevent oil spills and therefore help protect marine life in the ocean.

It must be considered that different consumers have different priorities due to their personal situation and preferences. For example, while some prefer to reduce CO2 emissions, others prefer to minimize plastic waste or obtain local products with a clear origin. There are inevitably trade-offs between these goals. While uniform assessment or labeling may allow for direct product comparisons, it does not take into account individual

preferences and multiple dimensions of sustainability, which could lead to a loss of motivation for individuals to change their behavior towards more sustainable consumption. In addition, individual circumstances may play a role. For example, those who live close to a certain store would produce less CO_2 emissions on the way to the store than those who live further.

Another important point to consider are local policies (environmental, social, mobility, transport, etc.) that can influence purchasing scenarios / behaviors. For example, some municipalities allow for the recycling of plastics, while others do not or limit recycling to only a few types of plastics, which affects the sustainability of the product that the consumer buys. The availability, collection and integration of the vast amount of data needed to make decisions based on sustainability is a limiting factor that negatively influences consumer behavior towards more sustainable products.

New technologies, such as the Internet of Things, Big Data and Cloud Computing, make it easier to collect large amounts of data from all processes in the value chain and maintain product traceability from origin to consumer. On the other hand, distributed ledger technologies, such as blockchain, enable food and other goods manufacturers to guarantee the origin of the products and the means used to produce, store and transport them. It is also possible to use hybrid algorithms of ethical and eXplainable artificial intelligence based on machine learning, specifically on Deep Neuro-Symbolic Learning models, which provide recommendations to end consumers, regarding purchasing decisions, based on parameters such as sustainability or the health benefits of products. Last but not least, the contextual awareness provided by sensor-equipped smartphones enables the timely and relevant provision of information, while in-device computer vision algorithms allow in-situ examination of products, thus maximizing the transformational impact of purchasing decisions on consumer behavior. Several existing projects have used a technical approach to address sustainable consumption. Automated referral systems to support consumers in making sustainable purchasing decisions have been introduced, in another example, a harmonized food ontology has been introduced to increase global food traceability, quality control and data integration.

The H2020 ASSET Consumerism project develops an application for smartphones using Internet of Things technology that promotes sustainable shopping based on personal preferences and leads to the emergence of collective political consumerism. However, these projects take into account a limited amount of data, focus only on factors related to individual products and only allow comparisons of similar products from the same store. In addition, existing applications, such as the standalone Yuka application, are limited by their data, but also offer a better range of services through their paid version of the application, which excludes a large part of the population. In addition, there is currently no system to help consumers make decisions about their purchasing decisions as a whole, such as whether it is better to buy organic products on the spot than to order organic products online, even with regard to the individual situation of the consumer. The narrow definition of "consumer" is, in addition to the previously elaborated problems with quality and access to data, the main limitations of existing sustainable consumption solutions. It is becoming increasingly clear that a wide range of stakeholders in the supply chain need to be involved for sustainability to emerge.

In this regard, the targeted consumers can be not only individuals sensitive to environmental and sustainable consumption issues, but also communities, small businesses (e.g., local coffee shop, school, sports club) that share the same concerns as their customers or are just trying to better address their needs. In addition, this tool is designed to assist decision-makers in companies (e.g., supply chain and purchasing managers) as well as policy makers in assessing the overall sustainability of products. Likewise, the tool can provide valuable information to manufacturers who, based on the "sustainable market momentum" gained, could innovate their products and their approach to improving sustainability, thus differentiating themselves from the competition.

References:

- Abrishambaf, O., Faria, P., Gomes, L., Spínola, J., Vale, Z., & Corchado, J. (2017). Implementation of a real-time microgrid simulation platform based on centralized and distributed management. Energies, 10(6).
- Ali, I., Hussain, T., Khan, K., Iqbal, A., & Perviz, F. (2020). The Impact of IEEE 802.11 Contention Window on The Performance of Transmission Control Protocol in Mobile Ad-Hoc Network. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 9(3), 29–48. https://doi.org/10.14201/ADCAIJ2020932948
- Allam, Z., & Dhunny, Z. (2019). On big data, artificial intelligence and smart cities. Cities, 89, 80-91.
- Allam, Z., & Jones, D. (2020). On the coronavirus (Covid-19) outbreak and the smart city network: Universal data sharing standards coupled with artificial intelligence (ai) to benefit urban health monitoring and management. Healthcare (Switzerland), 8(1).
- Al-Lohibi, H., Alkhamisi, T., Assagran, M., Aljohani, A., & Aljahdali, A. O. (2020). Awjedni: A Reverse-Image-Search Application. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal (ISSN: 2255-2863). Salamanca, 9(3). https://doi.org/10.14201/ADCAIJ2020934968
- Almeida, A., Santos, I., Rodrigues, J., Frazão, L., Ribeiro, J., Silva, F., & Pereira, A. (2020). Real-time low-cost active and assisted living for the elderly. Advances in Intelligent Systems and Computing, 1006, 153-161.
- Alves, J., & Pinto, A. (2019). On the use of the blockchain technology in electronic voting systems. Advances in Intelligent Systems and Computing, 806, 323-330.
- Assiri, F. (2020). Methods for Assessing, Predicting, and Improving Data Veracity: A survey. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 9(4), 5–30. https://doi.org/10.14201/ADCAIJ202094530
- Attia, Z., Kapa, S., Lopez-Jimenez, F., McKie, P., Ladewig, D., Satam, G., Pellikka, P., Enriquez-Sarano, M., Noseworthy, P., Munger, T., Asirvatham, S., Scott, C., Carter, R., & Friedman, P. (2019). Screening for cardiac contractile dysfunction using an artificial intelligence–enabled electrocardiogram. Nature Medicine, 25(1), 70-74.
- Attia, Z., Noseworthy, P., Lopez-Jimenez, F., Asirvatham, S., Deshmukh, A., Gersh, B., Carter, R., Yao, X., Rabinstein, A., Erickson, B., Kapa, S., & Friedman, P. (2019). An artificial intelligence-enabled ECG algorithm for the identification of patients with atrial fibrillation during sinus rhythm: a retrospective analysis of outcome prediction. The Lancet, 394(10201), 861-867.
- Aveleira-Mata, J., & Alaiz-Moreton, H. (2020). Functional prototype for intrusion detection system oriented to intelligent iot models. Advances in Intelligent Systems and Computing, 1006, 179-186.
- Baikova, D., Maia, R., Santos, P., Ferreira, J., & Oliveira, J. (2019). Real time object detection and tracking. Advances in Intelligent Systems and Computing, 806, 129-137.
- Barredo Arrieta, A., Díaz-Rodríguez, N., Del Ser, J., Bennetot, A., Tabik, S., Barbado, A., Garcia, S., Gil-Lopez, S., Molina, D., Benjamins, R., Chatila, R., & Herrera, F. (2020). Explainable Artificial Intelligence (XAI): Concepts, taxonomies, opportunities and challenges toward responsible AI. Information Fusion, 58, 82-115.
- Bartolomé, Á., García-Retuerta, D., Pinto-Santos, F., & Chamoso, P. (2020). Internet data extraction and analysis for profile generation. Advances in Intelligent Systems and Computing, 1006, 112-119.
- Basarslan, M. S., & Kayaalp, F. (2020). Sentiment Analysis with Machine Learning Methods on Social Media. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal (ISSN: 2255-2863). Salamanca, 9(3). https://doi.org/10.14201/ADCAIJ202093515
- Bedi, J., & Toshniwal, D. (2019). Deep learning framework to forecast electricity demand. Applied Energy, 238, 1312-1326.
- Belmonte, L., Morales, R., García, A., Segura, E., Novais, P., & Fernández-Caballero, A. (2020). Assisting dependent people at home through autonomous unmanned aerial vehicles. Advances in Intelligent Systems and Computing, 1006, 216-223.

- Bera, K., Schalper, K., Rimm, D., Velcheti, V., & Madabhushi, A. (2019). Artificial intelligence in digital pathology — new tools for diagnosis and precision oncology. Nature Reviews Clinical Oncology, 16(11), 703-715.
- Bondioli, M., Buzzi, M., Buzzi, M., Giuca, M., Pardossi, F., Pelagatti, S., Semucci, V., Senette, C., Uscidda, F., & Vagelli, B. (2019). MyDentist: Making children with autism familiar with dental care. Advances in Intelligent Systems and Computing, 806, 365-372.
- Bondioli, M., Chessa, S., Narzisi, A., Pelagatti, S., & Piotrowicz, D. (2020). Capturing play activities of young children to detect autism red flags. Advances in Intelligent Systems and Computing, 1006, 71-79.
- Botana López, A. (2019). Deep Learning in Biometrics: A Survey. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 8(4), 19–32. https://doi.org/10.14201/ADCAIJ2019841932
- Brown, N., Fiscato, M., Segler, M., & Vaucher, A. (2019). GuacaMol: Benchmarking Models for de Novo Molecular Design. Journal of Chemical Information and Modeling, 59(3), 1096-1108.
- Burstein, H., Lacchetti, C., Anderson, H., Buchholz, T., Davidson, N., Gelmon, K., Giordano, S., Hudis, C., Solky, A., Stearns, V., Winer, E., & Griggs, J. (2019). Adjuvant endocrine therapy for women with hormone receptor–positive breast cancer: ASCO clinical practice guideline focused update. Journal of Clinical Oncology, 37(5), 423-438.
- Byrne, M., Chapados, N., Soudan, F., Oertel, C., Pérez, M., Kelly, R., Iqbal, N., Chandelier, F., & Rex, D. (2019). Real-time differentiation of adenomatous and hyperplastic diminutive colorectal polyps during analysis of unaltered videos of standard colonoscopy using a deep learning model. Gut, 68(1), 94-100.
- Caivano, D., Cassano, F., Fogli, D., & Piccinno, A. (2019). EUD4SH: A EUD model for the smart home. Advances in Intelligent Systems and Computing, 806, 86-93.
- Carneiro, D., & Vieira, A. (2019). A framework to improve data collection and promote usability. Advances in Intelligent Systems and Computing, 806, 357-364.
- Casado-Vara, R., Chamoso, P., De la Prieta, F., Prieto, J., & Corchado, J. M. (2019). Non-linear adaptive closed-loop control system for improved efficiency in IoT-blockchain management. Information Fusion, 49, 227-239.
- Casado-Vara, R., de la Prieta, F., Prieto, J., & Corchado, J. M. (2018, November). Blockchain framework for IoT data quality via edge computing. In Proceedings of the 1st Workshop on Blockchain-enabled Networked Sensor Systems (pp. 19-24).
- Casado-Vara, R., De la Prieta, F., Prieto, J., & Corchado, J. M. (2019, December). Improving temperature control in smart buildings based in IoT network slicing technique. In 2019 IEEE Global Communications Conference (GLOBECOM) (pp. 1-6). IEEE.
- Casado-Vara, R., González-Briones, A., Prieto, J., & Corchado, J. (2019). Smart Contract for Monitoring and Control of Logistics Activities: Pharmaceutical Utilities Case Study. Advances in Intelligent Systems and Computing, 771, 509-517.
- Casado-Vara, R., Martín del Rey, A., Alonso, R. S., Trabelsi, S., & Corchado, J. M. (2020). A new stability criterion for IoT systems in smart buildings: Temperature case study. Mathematics, 8(9), 1412.
- Casado-Vara, R., Martin-del Rey, A., Affes, S., Prieto, J., & Corchado, J. (2020). IoT network slicing on virtual layers of homogeneous data for improved algorithm operation in smart buildings. Future Generation Computer Systems, 102, 965-977.
- Casado-Vara, R., Martin-del Rey, A., Affes, S., Prieto, J., & Corchado, J. M. (2020). IoT network slicing on virtual layers of homogeneous data for improved algorithm operation in smart buildings. Future Generation Computer Systems, 102, 965-977.
- Casado-Vara, R., Novais, P., Gil, A. B., Prieto, J., & Corchado, J. M. (2019). Distributed continuous-time fault estimation control for multiple devices in IoT networks. IEEE Access, 7, 11972-11984.
- Casado-Vara, R., Novais, P., Gil, A., Prieto, J., & Corchado, J. (2019). Distributed Continuous-Time Fault Estimation Control for Multiple Devices in IoT Networks. IEEE Access, 7, 11972-11984.
- Casado-Vara, R., Prieto-Castrillo, F., & Corchado, J. (2018). A game theory approach for cooperative control to improve data quality and false data detection in WSN. International Journal of Robust and Nonlinear Control, 28(16), 5087-5102.
- Cassano, F., Casale, A., Regina, P., Spadafina, L., & Sekulic, P. (2020). A recurrent neural network approach to improve the air quality index prediction. Advances in Intelligent Systems and Computing, 1006, 36-44.

- Chamola, V., Hassija, V., Gupta, V., & Guizani, M. (2020). A Comprehensive Review of the COVID-19 Pandemic and the Role of IoT, Drones, AI, Blockchain, and 5G in Managing its Impact. IEEE Access, 8, 90225-90265.
- Chamoso, P., González-Briones, A., De La Prieta, F., Venyagamoorthy, G., & Corchado, J. (2020). Smart city as a distributed platform: Toward a system for citizen-oriented management. Computer Communications, 152, 323-332.
- Chamoso, P., González-Briones, A., De La Prieta, F., Venyagamoorthy, G. K., & Corchado, J. M. (2020). Smart city as a distributed platform: Toward a system for citizen-oriented management. Computer communications, 152, 323-332.
- Chaves-Barboza, E., Trujillo-Torres, J., Hinojo-Lucena, F., & Cáceres-Reche, P. (2019). Personal learning environments (PLE) on the bachelor's degree in early education at the University of Granada. Advances in Intelligent Systems and Computing, 806, 381-388.
- Choon, Y., Mohamad, M., Deris, S., Illias, R., Chong, C., Chai, L., Omatu, S., & Corchado, J. (2014). Differential bees flux balance analysis with OptKnock for in silico microbial strains optimization. PLoS ONE, 9(7).
- Chowdhury, M., Rahman, T., Khandakar, A., Mazhar, R., Kadir, M., Mahbub, Z., Islam, K., Khan, M., Iqbal, A., Emadi, N., Reaz, M., & Islam, M. (2020). Can AI Help in Screening Viral and COVID-19 Pneumonia?. IEEE Access, 8, 132665-132676.
- Coley, C., Thomas, D., Lummiss, J., Jaworski, J., Breen, C., Schultz, V., Hart, T., Fishman, J., Rogers, L., Gao, H., Hicklin, R., Plehiers, P., Byington, J., Piotti, J., Green, W., John Hart, A., Jamison, T., & Jensen, K. (2019). A robotic platform for flow synthesis of organic compounds informed by AI planning. Science, 365(6453).
- Costa, Â., Novais, P., Corchado, J., & Neves, J. (2012). Increased performance and better patient attendance in an hospital with the use of smart agendas. Logic Journal of the IGPL, 20(4), 689-698.
- Costa, R., Machado, R., & Gonçalves, S. (2019). Guimarães: innovative and engaged city. Advances in Intelligent Systems and Computing, 806, 1-9.
- Dai, Y., Xu, D., Maharjan, S., Chen, Z., He, Q., & Zhang, Y. (2019). Blockchain and Deep Reinforcement Learning Empowered Intelligent 5G beyond. IEEE Network, 33(3), 10-17.
- Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. Journal of the Academy of Marketing Science, 48(1), 24-42.
- De Paz, J., Villarrubia, G., Gil, A., Sánchez, Á., López, V., & Dolores Muñoz, M. (2019). Prediction system for the management of bicycle sharing systems. Advances in Intelligent Systems and Computing, 806, 405-410.
- Deng, S., Zhao, H., Fang, W., Yin, J., Dustdar, S., & Zomaya, A. (2020). Edge Intelligence: The Confluence of Edge Computing and Artificial Intelligence. IEEE Internet of Things Journal, 7(8), 7457-7469.
- Duan, Y., Edwards, J., & Dwivedi, Y. (2019). Artificial intelligence for decision making in the era of Big Data – evolution, challenges and research agenda. International Journal of Information Management, 48, 63-71.
- Durães, D., Bajo, J., & Novais, P. (2019). Supervising attention in an e-learning system. Advances in Intelligent Systems and Computing, 806, 389-396.
- Faia, R., Pinto, T., Abrishambaf, O., Fernandes, F., Vale, Z., & Corchado, J. (2017). Case based reasoning with expert system and swarm intelligence to determine energy reduction in buildings energy management. Energy and Buildings, 155, 269-281.
- Fatima, N. (2020). Enhancing Performance of a Deep Neural Network by Comparing Optimizers Experimentally. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal (ISSN: 2255-2863). Salamanca, 9(2). https://doi.org/10.14201/ADCAIJ2020927990
- Freitas, L., Henriques, P., & Novais, P. (2019). Context-awareness and uncertainty: Current scenario and challenges for the future. Advances in Intelligent Systems and Computing, 806, 174-181.
- Freitas, L., Henriques, P., & Novais, P. (2020). Attribute grammar applied to human activities recognition in intelligent environments. Advances in Intelligent Systems and Computing, 1006, 62-70.
- García, A., González, P., Fernández-Caballero, A., & Navarro, E. (2019). An innovative tool to get better at expressing facial emotions. Advances in Intelligent Systems and Computing, 806, 290-297.

- García, A., Navarro, E., Fernández-Caballero, A., & González, P. (2019). Towards the design of avatar-based therapies for enhancing facial affect recognition. Advances in Intelligent Systems and Computing, 806, 306-313.
- García, Ó., Alonso, R., Prieto, J., & Corchado, J. (2017). Energy efficiency in public buildings through context-aware social computing. Sensors (Switzerland), 17(4).
- Garcia-Alonso, J., Berrocal, J., Murillo, J., Mendes, D., Fonseca, C., & Lopes, M. (2019). Situational-context for virtually modeling the elderly. Advances in Intelligent Systems and Computing, 806, 298-305.
- García-Martínez, B., Martínez-Rodrigo, A., Fernández-Caballero, A., & Alcaraz, R. (2019). Multilag extension of quadratic sample entropy for distress recognition with EEG recordings. Advances in Intelligent Systems and Computing, 806, 274-281.
- Garc-ía-Retuerta, D., Bartolomé, Á., Chamoso, P., Corchado, J., & González-Briones, A. (2020). Original content verification using hash-based video analysis. Advances in Intelligent Systems and Computing, 1006, 120-127.
- Gazafroudi, A. S., Corchado, J. M., Keane, A., & Soroudi, A. (2019). Decentralised flexibility management for EVs. IET Renewable Power Generation, 13(6), 952-960.
- Gazafroudi, A., Corchado, J., Keane, A., & Soroudi, A. (2019). Decentralised flexibility management for EVs. IET Renewable Power Generation, 13(6), 952-960.
- Gonçalves, F., Carneiro, D., Pêgo, J., & Novais, P. (2019). Monitoring mental stress through mouse behaviour and decision-making patterns. Advances in Intelligent Systems and Computing, 806, 40-47.
- Gonçalves, F., Pereira, R., Ferreira, J., Vasconcelos, J., Melo, F., & Velez, I. (2019). Predictive analysis in healthcare: Emergency wait time prediction. Advances in Intelligent Systems and Computing, 806, 138-145.
- Gonzalez, C., Zapotecatl, J., Alberola, J., Julian, V., & Gershenson, C. (2019). Distributed management of traffic intersections. Advances in Intelligent Systems and Computing, 806, 56-64.
- González-Briones, A., Castellanos-Garzón, J., Mezquita Martín, Y., Prieto, J., & Corchado, J. (2018). A framework for knowledge discovery from wireless sensor networks in rural environments: A crop irrigation systems case study. Wireless Communications and Mobile Computing, 2018.
- González-Briones, A., Chamoso, P., De La Prieta, F., Demazeau, Y., & Corchado, J. (2018). Agreement technologies for energy optimization at home. Sensors (Switzerland), 18(5).
- González-Briones, A., Chamoso, P., Yoe, H., & Corchado, J. (2018). GreenVMAS: Virtual organization based platform for heating greenhouses using waste energy from power plants. Sensors (Switzerland), 18(3).
- Grigorescu, S., Trasnea, B., Cocias, T., & Macesanu, G. (2020). A survey of deep learning techniques for autonomous driving. Journal of Field Robotics, 37(3), 362-386.
- Guillomía, M., Artigas, J., & Falcó, J. (2019). Time orientation training in AAL. Advances in Intelligent Systems and Computing, 806, 121-128.
- Gunning, D., & Aha, D. (2019). DARPA's explainable artificial intelligence program. AI Magazine, 40(2), 44-58.
- Gunning, D., Stefik, M., Choi, J., Miller, T., Stumpf, S., & Yang, G.Z. (2019). XAI-Explainable artificial intelligence. Science Robotics, 4(37).
- Gursoy, D., Chi, O., Lu, L., & Nunkoo, R. (2019). Consumers acceptance of artificially intelligent (AI) device use in service delivery. International Journal of Information Management, 49, 157-169.
- Haenlein, M., & Kaplan, A. (2019). A brief history of artificial intelligence: On the past, present, and future of artificial intelligence. California Management Review, 61(4), 5-14.
- Hagendorff, T. (2020). The Ethics of AI Ethics: An Evaluation of Guidelines. Minds and Machines, 30(1), 99-120.
- Harmon, S., Sanford, T., Xu, S., Turkbey, E., Roth, H., Xu, Z., Yang, D., Myronenko, A., Anderson, V., Amalou, A., Blain, M., Kassin, M., Long, D., Varble, N., Walker, S., Bagci, U., Ierardi, A., Stellato, E., Plensich, G., Franceschelli, G., Girlando, C., Irmici, G., Labella, D., Hammoud, D., Malayeri, A., Jones, E., Summers, R., Choyke, P., Xu, D., Flores, M., Tamura, K., Obinata, H., Mori, H., Patella, F., Cariati, M., Carrafiello, G., An, P., Wood, B., & Turkbey, B. (2020). Artificial intelligence for the detection of COVID-19 pneumonia on chest CT using multinational datasets. Nature Communications, 11(1).

- Hernández, G., García-Retuerta, D., Chamoso, P., & Rivas, A. (2020). Design of an AI-based workflow-guiding system for stratified sampling. Advances in Intelligent Systems and Computing, 1006, 105-111.
- Hirchoua, B., Ouhbi, B., & Frikh, B. (2020). Dynamic rules extraction in big data context for knowledge capitalization systems. Advances in Intelligent Systems and Computing, 1006, 145-152.
- Horie, Y., Yoshio, T., Aoyama, K., Yoshimizu, S., Horiuchi, Y., Ishiyama, A., Hirasawa, T., Tsuchida, T., Ozawa, T., Ishihara, S., Kumagai, Y., Fujishiro, M., Maetani, I., Fujisaki, J., & Tada, T. (2019). Diagnostic outcomes of esophageal cancer by artificial intelligence using convolutional neural networks. Gastrointestinal Endoscopy, 89(1), 25-32.
- Hussain, A., Hussain, T., Ali, I., & Khan, M. R. (2020). Impact of Sparse and Dense Deployment of Nodes Under Different Propagation Models in Manets. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 9(1), 61–84. https://doi.org/10.14201/ADCAIJ2020916184
- Hussain, N., Mirza, H. T., & Hussain, I. (2019). Detecting Spam Review through Spammer's Behavior Analysis. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 8(2), 61–71. https://doi.org/10.14201/ADCAIJ2019826171
- Imran, A., Posokhova, I., Qureshi, H., Masood, U., Riaz, M., Ali, K., John, C., Hussain, M., & Nabeel, M. (2020). AI4COVID-19: AI enabled preliminary diagnosis for COVID-19 from cough samples via an app. Informatics in Medicine Unlocked, 20.
- Innocente, A., Pooch, E., & Cazella, S. (2019). Help cateter: An application for mobile device about central venous catheters handling. Advances in Intelligent Systems and Computing, 806, 48-55.
- Jabla, R., Braham, A., Buendía, F., & Khemaja, M. (2020). A computing framework to check real-time requirements in ambient intelligent systems. Advances in Intelligent Systems and Computing, 1006, 19-26.
- Jamshidi, M., Lalbakhsh, A., Talla, J., Peroutka, Z., Hadjilooei, F., Lalbakhsh, P., Jamshidi, M., Spada, L., Mirmozafari, M., Dehghani, M., Sabet, A., Roshani, S., Roshani, S., Bayat-Makou, N., Mohamadzade, B., Malek, Z., Jamshidi, A., Kiani, S., Hashemi-Dezaki, H., & Mohyuddin, W. (2020). Artificial Intelligence and COVID-19: Deep Learning Approaches for Diagnosis and Treatment. IEEE Access, 8, 109581-109595.
- Jiang, K., Piao, X., Al-Sada, M., Höglund, T., Ranade, S., & Nakajima, T. (2019). A robotic haptic feedback device for immersive virtual reality applications. Advances in Intelligent Systems and Computing, 806, 146-154.
- Jiang, X., Coffee, M., Bari, A., Wang, J., Jiang, X., Huang, J., Shi, J., Dai, J., Cai, J., Zhang, T., Wu, Z., He, G., & Huang, Y. (2020). Towards an artificial intelligence framework for data-driven prediction of coronavirus clinical severity. Computers, Materials and Continua, 63(1), 537-551.
- Jiang, Y., & Wen, J. (2020). Effects of COVID-19 on hotel marketing and management: a perspective article. International Journal of Contemporary Hospitality Management, 32(8), 2563-2573.
- Johnston, S., Martin, M., Di Leo, A., Im, S.A., Awada, A., Forrester, T., Frenzel, M., Hardebeck, M., Cox, J., Barriga, S., Toi, M., Iwata, H., & Goetz, M. (2019). MONARCH 3 final PFS: a randomized study of abemaciclib as initial therapy for advanced breast cancer. npj Breast Cancer, 5(1).
- Jozi, A., Pinto, T., Praça, I., Silva, F., Teixeira, B., & Vale, Z. (2019). Genetic fuzzy rule-based system using MOGUL learning methodology for energy consumption forecasting. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 8(1), 55–64. https://doi.org/10.14201/ADCAIJ2019815564
- Kang, J., & Sundar, S. (2020). Social robots with a theory of mind (ToM): Are we threatened when they can read our emotions?. Advances in Intelligent Systems and Computing, 1006, 80-88.
- Kimura, R., & Nakajima, T. (2020). A ubiquitous computing platform for virtualizing collective human eyesight and hearing capabilities. Advances in Intelligent Systems and Computing, 1006, 27-35.
- Kinoshita, Y., & Nakajima, T. (2019). Making ambient music interactive based on ubiquitous computing technologies. Advances in Intelligent Systems and Computing, 806, 199-207.
- Laguna, M., & Lavín, I. (2019). Monitoring rehabilitation process using microsoft kinect. Advances in Intelligent Systems and Computing, 806, 166-173.
- Lamy, M., Pereira, R., Ferreira, J., Vasconcelos, J., Melo, F., & Velez, I. (2019). Extracting clinical information from electronic medical records. Advances in Intelligent Systems and Computing, 806, 113-120.
- Lanini, M., Bondioli, M., Narzisi, A., Pelagatti, S., & Chessa, S. (2019). Sensorized toys to identify the early 'Red Flags' of autistic spectrum disorders in preschoolers. Advances in Intelligent Systems and Computing, 806, 190-198.

- Letaief, K., Chen, W., Shi, Y., Zhang, J., & Zhang, Y.J. (2019). The Roadmap to 6G: AI Empowered Wireless Networks. IEEE Communications Magazine, 57(8), 84-90.
- Li, T., Chen, H., Sun, S., & Corchado, J. (2019). Joint Smoothing and Tracking Based on Continuous-Time Target Trajectory Function Fitting. IEEE Transactions on Automation Science and Engineering, 16(3), 1476-1483.
- Li, T., Corchado, J., & Sun, S. (2019). Partial consensus and conservative fusion of gaussian mixtures for distributed PHD fusion. IEEE Transactions on Aerospace and Electronic Systems, 55(5), 2150-2163.
- Li, T., Fan, H., García, J., & Corchado, J. (2019). Second-order statistics analysis and comparison between arithmetic and geometric average fusion: Application to multi-sensor target tracking. Information Fusion, 51, 233-243.
- Li, T.C., Su, J.Y., Liu, W., & Corchado, J. (2017). Approximate Gaussian conjugacy: parametric recursive filtering under nonlinearity, multimodality, uncertainty, and constraint, and beyond. Frontiers of Information Technology and Electronic Engineering, 18(12), 1913-1939.
- Liang, H., Tsui, B., Ni, H., Valentim, C., Baxter, S., Liu, G., Cai, W., Kermany, D., Sun, X., Chen, J., He, L., Zhu, J., Tian, P., Shao, H., Zheng, L., Hou, R., Hewett, S., Li, G., Liang, P., Zang, X., Zhang, Z., Pan, L., Cai, H., Ling, R., Li, S., Cui, Y., Tang, S., Ye, H., Huang, X., He, W., Liang, W., Zhang, Q., Jiang, J., Yu, W., Gao, J., Ou, W., Deng, Y., Hou, Q., Wang, B., Yao, C., Liang, Y., Zhang, S., Duan, Y., Zhang, R., Gibson, S., Zhang, C., Li, O., Zhang, E., Karin, G., Nguyen, N., Wu, X., Wen, C., Xu, J., Xu, W., Wang, B., Wang, W., Li, J., Pizzato, B., Bao, C., Xiang, D., He, W., He, S., Zhou, Y., Haw, W., Goldbaum, M., Tremoulet, A., Hsu, C.N., Carter, H., Zhu, L., Zhang, K., & Xia, H. (2019). Evaluation and accurate diagnoses of pediatric diseases using artificial intelligence. Nature Medicine, 25(3), 433-438.
- Longoni, C., Bonezzi, A., & Morewedge, C. (2019). Resistance to Medical Artificial Intelligence. Journal of Consumer Research, 46(4), 629-650.
- Lopez, H., & Dowell, J. (2019). Visual recognition of gestures in a meeting to detect when documents being talked about are missing. Advances in Intelligent Systems and Computing, 806, 73-85.
- Loureiro, T., Neto, A., Rocha, F., Aguiar, F., & Fernandez, M. (2020). Multi-agent system and classification algorithms applied for ehealth in order to support the referral of post-operative patients. Advances in Intelligent Systems and Computing, 1006, 11-18.
- Macedo, M., Barbosa, R., & Santos, R. (2019). The usage of an intelligent virtual sensor as a form of approximation to the final consumer. Advances in Intelligent Systems and Computing, 806, 349-356.
- Machado, T., Maia, R., Santos, P., & Ferreira, J. (2019). Vessel trajectories outliers. Advances in Intelligent Systems and Computing, 806, 247-255.
- Majeed, T., Stämpfli, A., Liebrich, A., & Meier, R. (2019). Personalized hybrid recommendations for daily activities in a tourist destination. Advances in Intelligent Systems and Computing, 806, 155-165.
- Maldonado-Manso, P., Ruiz-Palmero, J., Gómez-García, M., & Soto-Varela, R. (2019). Analysis of the use of ICT in compulsory bilingual secondary education in andalusia public schools. Case study. Advances in Intelligent Systems and Computing, 806, 373-380.
- Márquez Sánchez, S. (2020). Integral Support Predictive Platform for Industry 4.0. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 9(4), 71–82. https://doi.org/10.14201/ADCAIJ2020947182
- Marta Plaza-Hernández, Ana Belén Gil González, Sara Rodríguez-González, Javier Prieto Tejedor, Juan Manuel Corchado Rodríguez: Integration of IoT Technologies in the Maritime Industry. DCAI (Special Sessions) 2020: 107-115
- Martínez-Rodrigo, A., García-Martínez, B., Fernández-Caballero, A., & Alcaraz, R. (2019). Testing a new methodology for accelerating the computation of quadratic sample entropy in emotion recognition systems. Advances in Intelligent Systems and Computing, 806, 256-264.
- Martinho, S., Ferreira, J., & Resende, R. (2019). Find_Me: IoT indoor guidance system. Advances in Intelligent Systems and Computing, 806, 231-238.
- Matos, P., Rocha, J., Gonçalves, R., Almeida, A., Santos, F., Abreu, D., & Martins, C. (2020). Smart coach— a recommendation system for young football athletes. Advances in Intelligent Systems and Computing, 1006, 171-178.
- McKinney, S., Sieniek, M., Godbole, V., Godwin, J., Antropova, N., Ashrafian, H., Back, T., Chesus, M., Corrado, G., Darzi, A., Etemadi, M., Garcia-Vicente, F., Gilbert, F., Halling-Brown, M., Hassabis, D., Jansen, S., Karthikesalingam, A., Kelly, C., King, D., Ledsam, J., Melnick, D., Mostofi, H., Peng, L.,

Reicher, J., Romera-Paredes, B., Sidebottom, R., Suleyman, M., Tse, D., Young, K., De Fauw, J., & Shetty, S. (2020). International evaluation of an AI system for breast cancer screening. Nature, 577(7788), 89-94.

- Mei, X., Lee, H.C., Diao, K.Y., Huang, M., Lin, B., Liu, C., Xie, Z., Ma, Y., Robson, P., Chung, M., Bernheim, A., Mani, V., Calcagno, C., Li, K., Li, S., Shan, H., Lv, J., Zhao, T., Xia, J., Long, Q., Steinberger, S., Jacobi, A., Deyer, T., Luksza, M., Liu, F., Little, B., Fayad, Z., & Yang, Y. (2020). Artificial intelligence–enabled rapid diagnosis of patients with COVID-19. Nature Medicine, 26(8), 1224-1228.

- Meira, J., Andrade, R., Praça, I., Carneiro, J., & Marreiros, G. (2019). Comparative results with unsupervised techniques in cyber attack novelty detection. Advances in Intelligent Systems and Computing, 806, 103-112.

- Menegotto, A., Lopes Becker, C., & Cazella, S. (2020). Computer-aided hepatocarcinoma diagnosis using multimodal deep learning. Advances in Intelligent Systems and Computing, 1006, 3-10.

- Mishra, V. priy. (2020). Texture Analysis using wavelet Transform. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 10(1), 5–13. https://doi.org/10.14201/ADCAIJ2021101513

- Mishra, V. priy. (2020). Texture Analysis using wavelet Transform. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 10(1), 5–13. https://doi.org/10.14201/ADCAIJ2021101513

- Monteiro, A., Millão, L., Castro, Í., Cazella, S., Caregnato, R., & Viegas, K. (2019). M-health application for infection control and prevention focused on healthcare professionals. Advances in Intelligent Systems and Computing, 806, 239-246.

- Muñoz, M., Iglesia, D., González, G., Paz, J., Lozano, Á., & Barriuso, A. (2019). Platform for indexing music albums based on augmented reality techniques and multi-agent systems. Advances in Intelligent Systems and Computing, 806, 397-404.

- Navarro-Cáceres, M., Olarte-Martínez, M., Amílcar Cardoso, F., & Martins, P. (2019). User-guided system to generate spanish popular music. Advances in Intelligent Systems and Computing, 806, 24-32.

- Nawaz, S., Sharma, S., Wyne, S., Patwary, M., & Asaduzzaman, M. (2019). Quantum Machine Learning for 6G Communication Networks: State-of-the-Art and Vision for the Future. IEEE Access, 7, 46317-46350.

- Neto, A., Andrade, J., Loureiro, T., Campos, G., & Fernandez, M. (2019). A multi-agent system using fuzzy logic applied to ehealth. Advances in Intelligent Systems and Computing, 806, 216-223.

- Novais, P., Jung, J., Villarrubia, G., Fernández-Caballero, A., Navarro, E., González, P., Carneiro, D., Pinto, A., Campbell, A., & Duraes, D. (2019). Preface. Advances in Intelligent Systems and Computing, 806, v.

- Novais, P., Lloret, J., Chamoso, P., Carneiro, D., Navarro, E., & Omatu, S. (2020). Preface. Advances in Intelligent Systems and Computing, 1006, v-vi.

- Ozturk, T., Talo, M., Yildirim, E., Baloglu, U., Yildirim, O., & Rajendra Acharya, U. (2020). Automated detection of COVID-19 cases using deep neural networks with X-ray images. Computers in Biology and Medicine, 121.

- Panduro, R., Belmonte, L., Segura, E., Novais, P., Molina, J., González, P., Fernández-Caballero, A., & Morales, R. (2020). Motorized circular rail with RGB-D sensor on cart for physical rehabilitation. Advances in Intelligent Systems and Computing, 1006, 207-215.

- Patil, M. S., Chickerur, S., Meti, A., Nabapure, P. M., Mahindrakar, S., Naik, S., & Kanyal, S. (2019). LSTM Based Lip Reading Approach for Devanagiri Script. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 8(3), 13–26. https://doi.org/10.14201/ADCAIJ2019831326

- Pekel Özmen, E., & Pekel, E. (2019). Estimation of Number of Flight Using Particle Swarm Optimization and Artificial Neural Network. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 8(3), 27–33. https://doi.org/10.14201/ADCAIJ2019832733

- Pereira, T., Martins, C., Almeida, A., Fonseca, N., Faria, L., & Lopes-Santos, J. (2019). Medical digital library tool. Advances in Intelligent Systems and Computing, 806, 224-230.

- Pérez-Pons, . M. E., Parra-Domínguez, J., Chamoso, P., Plaza, M. ., & Alonso , R. (2020). Efficiency, profitability and productivity: Technological applications in the agricultural sector. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 9(4). https://doi.org/10.14201/ADCAIJ2020944754

- Pimpalkar, A. P., & Retna Raj, R. J. (2020). Influence of Pre-Processing Strategies on the Performance of ML Classifiers Exploiting TF-IDF and BOW Features. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 9(2), 49–68. https://doi.org/10.14201/ADCAIJ2020924968

- Pinheiro, P., Santos, R., & Barbosa, R. (2019). Industry 4.0 multi-agent system based knowledge representation through blockchain. Advances in Intelligent Systems and Computing, 806, 331-337.
- Popkova, E., & Sergi, B. (2020). Human capital and AI in industry 4.0. Convergence and divergence in social entrepreneurship in Russia. Journal of Intellectual Capital, 21(4), 565-581.
- Queiroz, J., Leitão, P., Pontes, J., Chaves, A., Parra, J., & Perez-Pons, M. E. (2020). A Quality Innovation Strategy for an Inter-regional Digital Innovation Hub. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 9(4), 31–45. https://doi.org/10.14201/ADCAIJ2020943145
- Ramos, C., Marreiros, G., Martins, C., Faria, L., Conceição, L., Santos, J., Ferreira, L., Mesquita, R., & Lima, L. (2019). A context-awareness approach to tourism and heritage routes generation. Advances in Intelligent Systems and Computing, 806, 10-23.
- Reñones, A., & Galende, M. (2020). F.A.I.R. open dataset of brushed DC motor faults for testing of AI algorithms. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 9(4), 83–94. https://doi.org/10.14201/ADCAIJ2020948394
- Rincon, J., Costa, A., Novais, P., Julian, V., & Carrascosa, C. (2020). Me3CA - Monitoring environment exercise and emotion by a cognitive assistant. Advances in Intelligent Systems and Computing, 1006, 128-135.
- Roberto Casado-Vara, David García-Retuerta, Álvaro Bartolomé, Esteban Jove, José Luís Calvo-Rolle, Ángel Martín del Rey, Juan M. Corchado: Demand Control Ventilation Strategy by Tracing the Radon Concentration in Smart Buildings. SOCO 2020: 374-382
- Roberto Casado-Vara, Fernando de la Prieta, Javier Prieto, Juan M. Corchado: Improving Temperature Control in Smart Buildings Based in IoT Network Slicing Technique. GLOBECOM 2019: 1-6
- Rocha, R., Carneiro, D., Costa, R., & Analide, C. (2020). Continuous authentication in mobile devices using behavioral biometrics. Advances in Intelligent Systems and Computing, 1006, 191-198.
- Rocha, R., Carneiro, D., Pinheiro, A., & Novais, P. (2019). A customizable game-inspired application for memory stimulation. Advances in Intelligent Systems and Computing, 806, 282-289.
- Rocher, J., Basterrechea, D., Parra, L., & Lloret, J. (2020). A new conductivity sensor for monitoring the fertigation in smart irrigation systems. Advances in Intelligent Systems and Computing, 1006, 136-144.
- Roda-Sanchez, L., Olivares, T., García, A., Garrido-Hidalgo, C., & Fernández-Caballero, A. (2020). Gesture control system for industry 4.0 human-robot interaction – A usability test. Advances in Intelligent Systems and Computing, 1006, 54-61.
- Rodrigues, M., Monteiro, V., Novais, P., & Analide, C. (2019). Getting residents closer to public institutions through gamification. Advances in Intelligent Systems and Computing, 806, 33-39.
- Rodríguez-Ruiz, A., Krupinski, E., Mordang, J.J., Schilling, K., Heywang-Köbrunner, S., Sechopoulos, I., & Mann, R. (2019). Detection of breast cancer with mammography: Effect of an artificial intelligence support system. Radiology, 290(3), 305-314.
- Rodriguez-Ruiz, A., Lång, K., Gubern-Merida, A., Broeders, M., Gennaro, G., Clauser, P., Helbich, T., Chevalier, M., Tan, T., Mertelmeier, T., Wallis, M., Andersson, I., Zackrisson, S., Mann, R., & Sechopoulos, I. (2019). Stand-Alone Artificial Intelligence for Breast Cancer Detection in Mammography: Comparison With 101 Radiologists. Journal of the National Cancer Institute, 111(9), 916-922.
- Safadinho, D., Ramos, J., Ribeiro, R., Filipe, V., Barroso, J., & Pereira, A. (2020). System to detect and approach humans from an aerial view for the landing phase in a UAV delivery service. Advances in Intelligent Systems and Computing, 1006, 162-170.
- Salah, K., Rehman, M., Nizamuddin, N., & Al-Fuqaha, A. (2019). Blockchain for AI: Review and open research challenges. IEEE Access, 7, 10127-10149.
- Sánchez, S. M. (2020). Integral support predictive platform for industry 4.0. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 9(4), 71-82.
- Santos, C., Ferreira, J., Rato, V., & Resende, R. (2019). Public building energy efficiency - An IoT approach. Advances in Intelligent Systems and Computing, 806, 65-72.
- Santosh, K. (2020). AI-Driven Tools for Coronavirus Outbreak: Need of Active Learning and Cross-Population Train/Test Models on Multitudinal/Multimodal Data. Journal of Medical Systems, 44(5).
- Satoh, I. (2020). Experiences in context aware-services. Advances in Intelligent Systems and Computing, 1006, 45-53.
- Shehu, A.S., Pinto, A., & Correia, M. (2019). On the interoperability of european national identity cards. Advances in Intelligent Systems and Computing, 806, 338-348.

- Shokri Gazafroudi, A., Soares, J., Fotouhi Ghazvini, M., Pinto, T., Vale, Z., & Corchado, J. (2019). Stochastic interval-based optimal offering model for residential energy management systems by household owners. International Journal of Electrical Power and Energy Systems, 105, 201-219.
- Simões, J., Gomes, R., Alves, A., & Bernardino, J. (2019). Urban mobility: Mobile crowdsensing applications. Advances in Intelligent Systems and Computing, 806, 182-189.
- Sittón-Candanedo, I., Alonso, R. S., Corchado, J. M., Rodríguez-González, S., & Casado-Vara, R. (2019). A review of edge computing reference architectures and a new global edge proposal. Future Generation Computer Systems, 99, 278-294.
- Sittón-Candanedo, I., Alonso, R. S., Corchado, J. M., Rodríguez-González, S., & Casado-Vara, R. (2019). A review of edge computing reference architectures and a new global edge proposal. Future Generation Computer Systems, 99, 278-294.
- Soto, A., Díaz, I., Rodríguez-García, A.M., & Jiménez, C. (2019). Perceptions of shared leadership through ICT in secondary schools in the city of melilla. Advances in Intelligent Systems and Computing, 806, 208-215.
- Sousa, H., & Pinto, A. (2019). On the feasibility of blockchain for online surveys with reputation and informed consent support. Advances in Intelligent Systems and Computing, 806, 314-322.
- Sun, T., & Medaglia, R. (2019). Mapping the challenges of Artificial Intelligence in the public sector: Evidence from public healthcare. Government Information Quarterly, 36(2), 368-383.
- Tang, F., Kawamoto, Y., Kato, N., & Liu, J. (2020). Future Intelligent and Secure Vehicular Network Toward 6G: Machine-Learning Approaches. Proceedings of the IEEE, 108(2), 292-307.
- Tao, F., Qi, Q., Wang, L., & Nee, A. (2019). Digital Twins and Cyber–Physical Systems toward Smart Manufacturing and Industry 4.0: Correlation and Comparison. Engineering, 5(4), 653-661.
- Teruel, M., López-Jaquero, V., Sánchez-Cifo, M., Navarro, E., & González, P. (2020). Improving motivation in wrist rehabilitation therapies. Advances in Intelligent Systems and Computing, 1006, 199-206.
- Teruel, M., Reyes-Guzmán, A., Villanueva, J., Lozano-Berrio, V., Alvarez-Rodríguez, M., Ceruelo-Abajo, S., Navarro, E., & Gonzalez, P. (2019). Picking cubes: a rehabilitation tool for improving the rehabilitation of gross manual dexterity. Advances in Intelligent Systems and Computing, 806, 265-273.
- Tiago Pinto, Ricardo Faia , María Navarro-Cáceres, Gabriel Santos , Juan Manuel Corchado , Zita A. Vale : Multi-Agent-Based CBR Recommender System for Intelligent Energy Management in Buildings. IEEE Syst. J. 13(1): 1084-1095 (2019)
- Tomonori Nakahara, Kohei Fukuyama, Mitsuru Hamada, Kenji Matsui, Yoshihisa Nakatoh, Yumiko O. Kato, Alberto Rivas, Juan Manuel Corchado: Mobile Device-Based Speech Enhancement System Using Lip-Reading. DCAI 2020: 159-167
- Trăscău, M., Sorici, A., & Florea, A. (2019). Detecting activities of daily living using the CONSERT engine. Advances in Intelligent Systems and Computing, 806, 94-102.
- Trebeschi, S., Drago, S., Birkbak, N., Kurilova, I., Călin, A., Delli Pizzi, A., Lalezari, F., Lambregts, D., Rohaan, M., Parmar, C., Rozeman, E., Hartemink, K., Swanton, C., Haanen, J., Blank, C., Smit, E., Beets-Tan, R., & Aerts, H. (2019). Predicting response to cancer immunotherapy using noninvasive radiomic biomarkers. Annals of Oncology, 30(6), 998-1004.
- Ucar, F., & Korkmaz, D. (2020). COVIDiagnosis-Net: Deep Bayes-SqueezeNet based diagnosis of the coronavirus disease 2019 (COVID-19) from X-ray images. Medical Hypotheses, 140.
- Umer, M., Awais, M., & Muzammul, M. (2019). Stock Market Prediction Using Machine Learning(ML)Algorithms. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 8(4), 97–116. https://doi.org/10.14201/ADCAIJ20198497116
- Vaishya, R., Javaid, M., Khan, I., & Haleem, A. (2020). Artificial Intelligence (AI) applications for COVID-19 pandemic. Diabetes and Metabolic Syndrome: Clinical Research and Reviews, 14(4), 337-339.
- Valdeolmillos, D., Mezquita, Y., & Ludeiro, A. (2020). Sensing as a service: An architecture proposal for big data environments in smart cities. Advances in Intelligent Systems and Computing, 1006, 97-104.
- Venkataraman, A. (2020). Application of DCS for Level Control in Nonlinear System using Optimization and Robust Algorithms. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 9(1), 29–50. https://doi.org/10.14201/ADCAIJ2020912950
- Venkatasubramanian, V. (2019). The promise of artificial intelligence in chemical engineering: Is it here, finally?. AIChE Journal, 65(2), 466-478.

- Viswanathan, H., & Mogensen, P. (2020). Communications in the 6G Era. IEEE Access, 8, 57063-57074.
- Wang, P., Berzin, T., Glissen Brown, J., Bharadwaj, S., Becq, A., Xiao, X., Liu, P., Li, L., Song, Y., Zhang, D., Li, Y., Xu, G., Tu, M., & Liu, X. (2019). Real-time automatic detection system increases colonoscopic polyp and adenoma detection rates: A prospective randomised controlled study. Gut, 68(10), 1813-1819.
- Wang, X., Han, Y., Wang, C., Zhao, Q., Chen, X., & Chen, M. (2019). In-edge AI: Intelligentizing mobile edge computing, caching and communication by federated learning. IEEE Network, 33(5), 156-165.
- Wided, A., Okba, K., & Fatima, B. (2019). Load balancing with Job Migration Algorithm for improving performance on grid computing: Experimental Results. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 8(4), 5–18. https://doi.org/10.14201/ADCAIJ201984518
- Wided, A., Okba, K., & Fatima, B. (2020). Load balancing with Job Migration Algorithm for improving performance on grid computing: Experimental Results. ADCAIJ: Advances in Distributed Computing and Artificial Intelligence Journal, 8(4), 5–18. https://doi.org/10.14201/ADCAIJ201984518
- Xu, Y., Hosny, A., Zeleznik, R., Parmar, C., Coroller, T., Franco, I., Mak, R., & Aerts, H. (2019). Deep learning predicts lung cancer treatment response from serial medical imaging. Clinical Cancer Research, 25(11), 3266-3275.
- Yang, Z., Zeng, Z., Wang, K., Wong, S.S., Liang, W., Zanin, M., Liu, P., Cao, X., Gao, Z., Mai, Z., Liang, J., Liu, X., Li, S., Li, Y., Ye, F., Guan, W., Yang, Y., Li, F., Luo, S., Xie, Y., Liu, B., Wang, Z., Zhang, S., Wang, Y., Zhong, N., & He, J. (2020). Modified SEIR and AI prediction of the epidemics trend of COVID-19 in China under public health interventions. Journal of Thoracic Disease, 12(3), 165-174.
- Yigitcanlar, T., Butler, L., Windle, E., Desouza, K. C., Mehmood, R., & Corchado, J. M. (2020). Can building "artificially intelligent cities" safeguard humanity from natural disasters, pandemics, and other catastrophes? An urban scholar's perspective. Sensors, 20(10), 2988.
- Yigitcanlar, T., Kankanamge, N., Regona, M., Maldonado, A., Rowan, B., Ryu, A., Desouza, K., Corchado, J., Mehmood, R., & Li, R. (2020). Artificial intelligence technologies and related urban planning and development concepts: How are they perceived and utilized in Australia?. Journal of Open Innovation: Technology, Market, and Complexity, 6(4), 1-21.
- Zappone, A., Di Renzo, M., & Debbah, M. (2019). Wireless Networks Design in the Era of Deep Learning: Model-Based, AI-Based, or Both?. IEEE Transactions on Communications, 67(10), 7331-7376.
- Zhang, K., Liu, X., Shen, J., Li, Z., Sang, Y., Wu, X., Zha, Y., Liang, W., Wang, C., Wang, K., Ye, L., Gao, M., Zhou, Z., Li, L., Wang, J., Yang, Z., Cai, H., Xu, J., Yang, L., Cai, W., Xu, W., Wu, S., Zhang, W., Jiang, S., Zheng, L., Zhang, X., Wang, L., Lu, L., Li, J., Yin, H., Wang, W., Li, O., Zhang, C., Liang, L., Wu, T., Deng, R., Wei, K., Zhou, Y., Chen, T., Lau, J.N., Fok, M., He, J., Lin, T., Li, W., & Wang, G. (2020). Clinically Applicable AI System for Accurate Diagnosis, Quantitative Measurements, and Prognosis of COVID-19 Pneumonia Using Computed Tomography. Cell, 181(6), 1423-1433.e11.
- Zhang, Z., Xiao, Y., Ma, Z., Xiao, M., Ding, Z., Lei, X., Karagiannidis, G., & Fan, P. (2019). 6G Wireless Networks: Vision, Requirements, Architecture, and Key Technologies. IEEE Vehicular Technology Magazine, 14(3), 28-41.
- Zhou, Z., Chen, X., Li, E., Zeng, L., Luo, K., & Zhang, J. (2019). Edge Intelligence: Paving the Last Mile of Artificial Intelligence With Edge Computing. Proceedings of the IEEE.
- Zhu, G., Wang, Y., & Huang, K. (2020). Broadband Analog Aggregation for Low-Latency Federated Edge Learning. IEEE Transactions on Wireless Communications, 19(1), 491-506.