

Editorial

This volume of the prestigious journal “Research in Computing Science” presents selected papers that discuss Hybrid Intelligent Systems (HIS) and its applications. Papers were carefully chosen by the editorial board on the basis of the at least two blinded reviews by the members of the reviewing committee and additional expert reviewers. The criteria taken into account were: 1) originality, 2) scientific contribution to the field, 3) soundness, and 4) technical quality of the papers. It is worth noting that 50% of received papers for this special issue were rejected.

The volume contains 11 papers covering various aspects of HIS in the fields of 1) Simulation and Smart Cities, 2) Knowledge Discovery Database, and 3) Metaheuristics and bioinspired algorithms. All selected papers discuss hot topics relevant for the academic and scientific community, due its potential applications in a wide variety of organizations.

Five papers are about simulation and Smart Cities: The first one presents a prototype position steering wheel control (SWC) designed for its implementation in cars that do not have this system, genetic algorithms (GA) are used to tune a PID controller connected to direct current (DC) motor for SWC that uses orientation of lines on the road. Second paper present an approach to solve the capacitated vehicle routing problem (CVRP) in a share bicycle system (SBS), besides construction of instances paper shows how Matlab was applied in the formulation of solution. Third paper presents the design and implementation of a CVRP simulator, authors propose the use of a genetic algorithm (GA) for the optimization of route and a three-tier web-based system to upload a CVRP instance and the selection of a Metaheuristic. For testing the simulator, ten different .vrp instances were processed with GA and compared it with the nearest neighbor algorithm (NNA) solutions. Fourth paper discusses the systematic review of papers centered in technological research adapted for the access of the information and the communication of people with hearing loss or deaf; under Kitchenham’s methodology, 350 papers published since 2013 until May 2017 were analyzed in order to create a technological-social model to promote the improvement of communication between deaf and hearing people. In paper fifth, authors discusses concepts and tools from Smarter Cities, Smart Contracts, and Blockchain, and presents a proposal to apply these tools in the daily operations of International Business Machines (IBM)’s supply chain to reduce transaction times radically by implementing agile practices.

KDD (Knowledge Discovery Databases) is another hot topic of discussion in HIS. The first paper of this section discusses the use of visualization techniques for the representation of multivariate analysis applied for study of student engagement at universities of careers in technology in the south of México, the instrument used in this research was the UWES-S (Utrecht Work Engagement Scale for Students). The

second paper aims to identify the learning strategies employed by university students; and represent them through graphic techniques of multivariate analysis; students are from the Administration and Administrative Computing careers. The instrument used was the Inventory of Strategies of Learning and Motivational Orientation (EDAOM). Third paper presents an Intelligent Tutoring System (ITS) that uses speech recognition in Spanish language to contribute to the study of the networks communications, paper discusses alternative and innovative techniques of human computer interaction (HCI) and the recognition with learning features on the use and details about internetworking terms.

Metaheuristics and Bioinspired algorithms are another fashion topic. The first paper of this section proposed a fuzzy inference system that allows planning and scheduling production using a Mamdani inference system tuned with a Genetic Algorithms, in this paper is proposed the use of fuzzy logic as an alternative for classical methodologies that require complex mathematical models or high precision data, that is hybridized with Genetic Algorithms (GA) for adjusting the required parameters. Second paper discusses the implementation of a heuristic algorithm for drone swarm auto-organization with the purpose of applying for wildfire alert and detection. Finally, third paper presents a proposal for the resolution of the assignment schedule problem (ASP) in the educational institutions by using the metaheuristic Gray Wolf Optimizer (GWO), this paper presents, as a use case, its application to a public university, a private university and a higher education institute.

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