

## Editorial

In this issue, we bring you five papers that delve into various facets of technology, ranging from power systems and IoT networks to telecommunications, gaming, and geophysical surveys. Each paper offers unique insights and contributions to their respective fields, reflecting the diverse and innovative nature of contemporary technological research.

Power quality monitoring is one of the most important aspects of designing compensators and other FACTS devices used in the power system." This paper introduces a novel sample manipulating technique for estimating power quality indices in harmonic polluted grids. By utilizing sample values of grid voltage and current signals along with a single standard sinusoidal signal, the proposed method reduces memory space requirements while providing accurate estimations. The techniques are validated through MATLAB simulations and real-time data extracted from digital storage oscilloscopes, offering promising advancements in power system monitoring [1].

IoT data collection networks have recently become one of the important research areas due to their fundamental role and wide application in many domains." Focusing on maximizing coverage in IoT networks, this paper presents a distributed approach combining Voronoi Diagrams and Genetic algorithms. Through experimental evaluations on real testbeds, the developed approach demonstrates superior performance in terms of coverage, RSSI, lifetime, and number of neighbouring objects compared to centralized algorithms, showcasing its potential for enhancing IoT network deployments [2].

As with previous generations of mobile cellular networks, rural regions are projected to face financial and technological challenges in deploying 5G services." This article explores the feasibility of utilizing TV White Spaces (TVWS) via High Altitude Platforms (HAPs) to bridge the broadband service gap in rural areas. Through performance evaluations using standard models, the study highlights the advantages and challenges of utilizing TVWS spectrum from HAP systems, offering valuable insights for future communication architectures [3].

Prakriti is a Sanskrit word which signifies Mother Nature." This paper introduces a multiplayer game, Prakriti, designed to educate players about water conservation. Developed using Unity 2D, the game provides an engaging platform for learning about water-saving techniques. Through iterative playtesting and feedback, the game demonstrates strong aesthetic quality and user interaction, effectively conveying information about water resources conservation in an immersive gaming environment [4].

A foundation study was carried out at a proposed Hostel site for the student of Federal University of Technology Akure, Nigeria." This study investigates the competence of overburden materials for foundation construction through geophysical surveys and geotechnical tests. The results reveal the presence of conductive clayey materials and shallow fractures, posing challenges for engineering structures. Recommendations are made for the design of deep foundations to ensure infrastructural development in the area [5].

In summary, the papers featured in this issue underscore the breadth and depth of technological advancements across various domains. From power systems and IoT networks to telecommunications, gaming, and geophysical surveys, these studies offer valuable insights, methodologies, and solutions to address contemporary challenges and drive innovation forward. We extend our gratitude to the authors for their insightful contributions and to our readers for their continued support of the Journal of Technological Advancements.

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