Editorial

We release the first issue of this volume of **Progress in Signals and Telecommunication Engineering** with the following papers.

In the first paper, "**Specification-Driven Segmentation of Mobile Devices: A Cluster Profiling and PCA-Based Visual Analysis,**" the authors outlined a specification driven segmentation framework that integrates cluster profiling with principal component analysis (PCA) based visualization to characterize heterogeneous mobile device ecosystems. Using a structured Kaggle telecommunications dataset encompassing hardware specifications, display characteristics, camera features, connectivity options, and pricing attributes, they applied unsupervised clustering to identify distinct device categories. The framework offers a scalable, interpretable methodology for analyzing mobile device diversity, supporting data informed decision making for product positioning, adaptive application deployment, and market intelligence, the authors claim.

In the second paper, "**A Novel Feature Engineering Framework for Capacitive Sensor Time Series Classification: Distinguishing Water and Oil Immersion Through Sequential Pattern Analysis,**" the author outlined a novel feature engineering framework for time series classification of capacitive sensor data. They designed a comprehensive feature set encompassing trend based, complexity-based, stability, and position-specific descriptors. The experimental results showed that engineered features substantially enhance classification performance.

In the last paper, "**Performance Characterization of Electromagnetic Nano-Networks Using Packet-Level Traffic Analysis,**" the authors studied the features of electromagnetic nano-network performance through packet-level traffic analysis of 876 simulated transmission events within the Terahertz band (0.1–10 THz), offering critical insights for Internet of Nano-Things (IoNT) development. This paper recorded a foundational understanding of nano-communication dynamics, emphasising that optimising electromagnetic nano-networks requires embracing the unique physical constraints of the Terahertz band.

We hope that these papers are technically rich and yield solid results.

Editors