

# Workshop on Machine Learning, Deep Learning and Computational Intelligence for Wireless Communication (MDCWC2020)

May 11-13, 2020

**National Institute of Technology Tiruchirappalli** 

## **Important Dates**

Paper Submission:

30 November 2019

Acceptance notification:

15 February 2020

Camera ready submission and Registration:

1 March 2020

Registration Fee:

₹ 6000/-

(Payment through SBI i collect)

## Objective of the workshop

Due to the feasibility of collecting huge data from mobile and wireless networks, there are many possibilities of using Machine learning, Deeplearning and the Computational Intelligence to interpret and to hunt knowledge from the collected data. The workshop aims in consolidating the experimental results integrating the Machine Learning, Deep Learning and Computational Intelligence for Wireless Communication.

The workshop invites original research contributions in the following data driven wireless communication applications (Not limited to) implemented using one or more of the following ML, DL and Computational intelligence algorithms.

#### Wireless Communication

- Network prediction, Traffic classification, Call detail record mining
- Mobile health care, Mobile pattern recognition, Natural language processing, Automatic Speech processing
- Mobility Analysis, Indoor Localization
- Wireless Sensor Networks (WSN)
- Energy minimization, Routing, Scheduling, Resource allocation, Multiple access, Power control
- Malware detection, Cyber security, Flooding attacks detection, Mobile apps sniffing
- MIMO detection, Signal detection in MIMO-OFDM, Modulation recognition,
- Channel Estimation, MIMO nonlinear equalization,
- Super-resolution channel and direction of arrival estimation,
- NOMA, mm-Wave channel model, Full duplex, OFDM/FBMC, NB-IOT

# Machine Learning

- Multiple input multiple output regression
- Probabilistic discriminative approach
- Multi-class logistic Regression
- Probabilistic generative model
- Support Vector Machine
- Dimensionality reduction techniques

#### Deep Learning

- Multilayer perceptron
- Boltzmann Machine
- Auto-Encoders
- Convolutional Neural Network
- Recurrent Neural Network
- Generative Adversarial Network
- Deep Reinforcement Learning

# Computational Intelligence

- Particle Swarm Optimization
- Bacterial Foraging
- Simulated Annealing
- Ant colony technique
- Genetic algorithm
- Social Emotional Optimization Algorithm
- Social Evolutionary Learning Algorithm

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## **Publication**

Lecture Notes in Electrical Engineering Researchers are invited to submit their original research findings. Submitted papers are subjected to Double review process and the selected papers will be published as the book series **Lecture Notes in Electrical Engineering (Confirmed).** Detailed information on paper submission, accommodation and travel will be posted on the workshop website.

Papers can be submitted via EasyChair through <u>this</u> link. Paper template is given <u>here</u>

## Coordinators

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#### **Organized by**

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