



CCE-IISc Certified Summer Course on AI/ML for 5G and 6G wireless communication

Course Coordinator - Prof. Sudhan Majhi

Associate Professor, Department of ECE, IISc.

Minimum Qualification :

BE/B Tech in ECE and relevant discipline
(4th year BE/B Tech also Eligible)

Prerequisite: Wireless Communication

Course Fee per participant:

Student **INR 15000+18% GST**

Others **INR 25000+18% GST**

Course Schedule

Date: 1st June to 30th June, 2025

Monday to Sunday 8 PM to 10 PM

100% live class along with question answers session by TAs,

Total Duration: 56 Hours

Mode: Online

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Registration Link:

<https://iisc.online/shortterm/home.html>

Course Content:

- **Introduction to Python:** Basic of Python programming
- **Introduction to Machine Learning:** Overview of supervised, semi-supervised and unsupervised, Regression Model, SVM, KNN, CNN, DNN, RNN, LSTM, GANs, Transfer learning, RL.
- **Introduction to Wireless Communication:** Python code on Single carrier system, OFDM, MIMO, OTFS system
- **Wireless Communications:** Source channel coding, channel coding, Modulation classification, channel estimation, classification of wireless signals Autoencoder (based on 3GPP Standard), CSI compression and feedback (based on 3GPP Standard), Beamforming and beam Management (based on 3GPP Standard), autoencoder and decoder for PAPR reduction, spectrum sensing, successive interference cancellation for NOMA.
- **Signal Estimation and Detection:** AL/ML based Parameter estimation, IF estimation, symbol rate estimation, STO and CFO estimation, MIMO/OFDM/OTFS detectors, Denoising signals.

Contact us

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