

**AICTE QIP
SHORT TERM TRAINING PROGRAMME**

On

**Machine Learning for Construction
Automation**

**Dates: Saturdays,
Feb 19 to March 26, 2022
Time: 10:00 AM to 5:00 PM IST**

Coordinators

Dr. Benny Raphael

Sponsored by

All India Council for Technical Education



Organized by

**Department of Civil Engineering
Indian Institute of Technology Madras
In association with the
International Association of Automation and
Robotics in Construction**

About the workshop

Objective: Introduce fundamentals of machine learning techniques and develop skills to select the right techniques to solve civil engineering automation problems.

The workshop will cover the basics of promising machine learning algorithms with applications to building and construction automation. Practical civil engineering examples and case studies will be used for illustration. Numerical exercises involving the use of simple software tools will be used for understanding the concepts better. There will be also be discussion sessions for bringing out potential applications in civil engineering.

The workshop will be conducted online through Google Meet, Webex, or Microsoft Teams

Topics

- Introduction to machine learning
- An overview of learning tasks and algorithms
- Classification
- Regression
- Support Vector Machines
- Artificial Neural Networks
- Case studies in construction automation

Who should attend?

- Faculty of civil engineering and architecture colleges
- Civil engineering and architecture students aiming to pursue research in construction automation
- Practicing engineers in construction and design firms who wish to get introduced to machine learning

Registration

Fees:

- Participants from academic institutions, both from AICTE approved and other colleges: ₹ 1,000
- Professionals from industry: ₹ 5,000

Schedule

Saturday Feb 19

- 10:00 – 12:00 Learning tasks and algorithms
- 14:00 – 17:00 Case Study 2: Presentation and group discussions

Saturday Feb 26

- 10:00 – 12:00 Maximal margin classification
- 14:00 – 17:00 Case Study 3: Presentation and group discussions

Saturday Mar 5

- 10:00 – 12:00 Regression
- 14:00 – 17:00 Case Study 3: Presentation and group discussions

Saturday Mar 12

- 10:00 – 17:00 Support vector machines
- 14:00 – 17:00 Case Study 4: Presentation and group discussions

Saturday Mar 19

- 10:00 – 12:00 Artificial neural networks
- 14:00 – 17:00 Case Study 5: Presentation and group discussions

Saturday Mar 26

- 10:00 – 12:00 Deep learning
- 14:00 – 17:00 Case Study 6: Presentation and group discussions