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- Dr. Ajin George Joseph
- Dr. Kalidas Yeturu
- Dr. Srinivas Padmanabhuni
- Dr. Rama Krishna Sai Gorthi

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- Dr. Venkata Ramana Badarla
- Mr. Nagarajan R

3rd SUMMER SCHOOL ON MACHINE LEARNING 2022 (Online)

Organized by

Department of Computer Science & Engineering
Indian Institute of Technology Tirupati

भारतीय प्रौद्योगिकी संस्थान तिरुपति
TIRUPATI

Audience will be upskilled on transforming a business requirement to machine learning problem statement through case studies and code demonstrations. Scope and limitations of ML methodology will be clarified. Technical differences and working details of ML/DL/RL/AI methods will be demystified

Overview

Today artificial intelligence is a term used widely across the world. However, it also means different things for different people. The only thing that does not change is, how to transform a business requirement to a machine learning problem statement. In this context it is important to understand the facts and myths behind the AI, ML, DL and RL methodologies to understand scope and limitation. The workshop is structured to cater to the clarification learning requirement of the machine learning enthusiasts.

Topics to be covered

- Supervised machine learning as pattern mapping problem via examples - vector representation, loss function minimization via gradient descent methodology, multiclass classification via logistic regression and multivariate linear regression, data issues - feature characteristics - homogenous, non-homogenous, missing values, class imbalance, noise, label corruption, bias and variance, cross validation, metrics & plotting, concept of automatic differentiation for gradient computation.
- Introduction to reinforcement learning methodology, concepts of agent, environment, state space, reward, Markov and Q-learning approaches, Examples of RL formulation.
- Introduction to neural networks - backpropagation and weight update, CNNs for object detection, Encoder-decoder networks for image segmentation and GAN methodology.
- Machine learning facts and myths, sharing of ML experiences by Industry personnel, sharing of ML problems by Institute faculty and interactive sessions.

Objectives

- To obtain the skill of translating a business requirement to a machine learning problem statement.
- To understand the scope and limitation of machine learning methodology.
- To learn mathematical essentials of deep neural networks.
- To get initialized into reinforcement learning and unsupervised learning approaches

List of Speakers

- Dr. Kalidas Yeturu,
  Assistant Professor,
  Department of CSE, IIT Tirupati
- Dr. Srinivas Padmanabhuni,
  Chief mentor, Tarah AI and Co-founder, CityMandi
  Guest Faculty Member, Department of CSE, IIT Tirupati
- Dr. Ajin George Joseph,
  Assistant Professor,
  Department of CSE, IIT Tirupati
- Dr. Rama Krishna Sai Gorthi,
  Associate Professor,
  Department of EE, IIT Tirupati

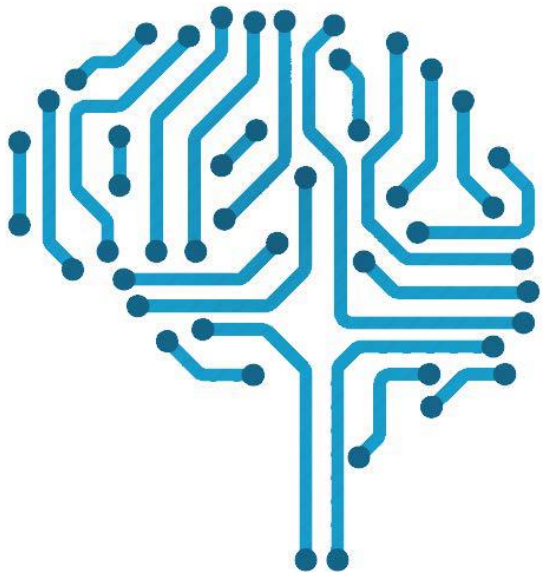
Workshop Dates

July 25th - July 29th, 2022

Last date of Registration

July 20th, 2022

Maximum number of registrations : 100



To know more visit,
https://iittp.ac.in/mlsummerschool

Venue:
Zoom
(Online Mode)

Expected Outcomes

- Identify vectorization requirements in business scenarios.
- Define a mapping function, loss function and formulate a machine learning solution.
- Understand classification and regression settings, standard metrics and visualization.
- Understand and build simple deep neural networks and convolutional neural networks.
- Get an idea of reinforcement learning methodology and unsupervised learning.
- Have a glimpse of problem statements in Industry and faculty laboratories.
- Obtain practice codes for hands-on exercises.

Registration Fee

Category	On or before July 15th 2022	Between 16th and 20th July 2022
Students	Rs 3000/-	Rs 4000/-
Faculty Members	Rs 5000/-	Rs 6000/-
Industry Employees	Rs 10000/-	Rs 11000/-

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