Machine Learning Lab Resource

Edutech offers a complete Machine Learning Lab Resource to explore various skills in Machine Learning

- Enables learning of various concepts of Machine Learning
- Converts your existing Computer Lab into Machine Learning Lab
- Pre-configured plug and play learning resource on Machine Learning
- Multiuser support
- Provision of workshop for an immediate start

Description :

The Machine Learning Lab amalgamates "Theory" and "Practice" and offers a complete startup solution for a machine learning enthusiastic who need to understand concepts involved along with strong application practices. Primarily, the foundational material and tools for Data Science are presented via Scikit-Learn. The concepts are covered in the experimentation and continue rapidly into exploratory data analysis and classical machine learning, where the data is organized, characterized, and manipulated. The Lab resource enables the learners to move from engineered models into custom application based approach. The resource provides a complete solution for the learner to get started with machine learning principles and concepts. This lab resource can be used by any department to strengthen their students' skills toward using data analysis and machine learning for different applications.
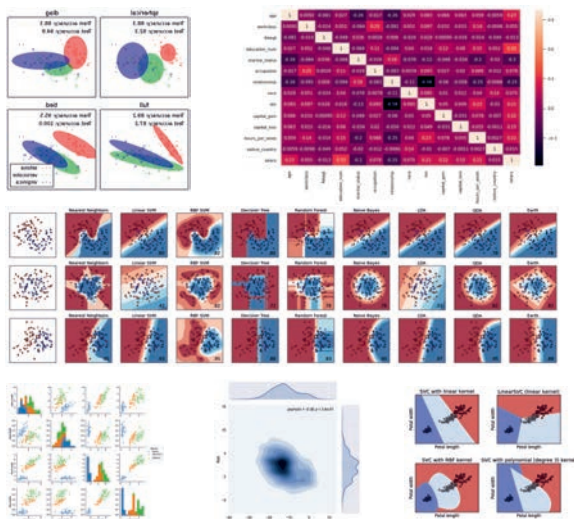
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Learning Skills / Experiments:

- Linear Regression
- Polynomial Regression
- Logistic Regression
- kNN (k Nearest Neighborhood)
- K-Means Clustering
- SVM (Support Vector Machine)
- Gradient Descent
- Newton's Method
- MLE (Maximum Likelihood Estimation)
- MAP (Maximum A Posteriori)
- PCA (Principal Component Analysis)
- L1 Regularization (Lasso Regression)
- L2 Regularization (Ridge Regression)
- Decision Trees
- Random Forest
- ANN (Artificial Neural Network)

Workshop:

A complete hands-on workshop is provided to demonstrate the use of the Machine Leaning lab resource, experimentation procedure, concepts and theory.

Prerequisites:

Software:

• Python language

An online foundation course on python can be optionally provided if required, For more details, Visit:

https://www.edutechlearning.com/coursedesc/computer-science/skill-courses2/python-programming-foundation-part-1

Hardware:

The following hardware setup is required in the lab to use ML Lab resource:

• Machine with following minimum specifications:

   CPU with minimum 8 cores (10 Cores recommended), Minimum 32 GB of RAM

• LAN environment

Applicable Departments:

Pure Science
   • Physics • Chemistry • Maths • Biology
Engineering
·   • Mechanical • Electronics • Electrical • Bio-medical
   • Information & Technology • Computer Science
Medical Science
   • Radiology • Oncology • Diagnostic
Commerce
   • Statistics • Finance • Stock Analysis

Applicable Areas:

• Robotics   • Smart cities
• Marketing   • Bioinformatics
• Health Care   • Finance
• Astrophysics
• Mobile advertising
• Recommendation systems
• Drug discovery and toxicology
• Customer relationship management

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