Techno India NJR Institute of Technology

Academic Administration of Techno NJR Institute

Proposed Course Outline for Review

Name of Faculty : Dr. Jitendra Shreemali

Department : Department of Computer Science & Engineering

Lectures Planned : 36

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| No. of Lectures | Topic |
|  | **Statistical Foundations for Machine Learning (1 Week)**. |
| 1 | Role of statistics in Machine Learning & understanding large data sets |
| 1 | Linear Regression Modeling |
| 1 | Non-linear Regression Modeling |
| 1 | Sampling & Sampling Distributions |
| 1 | Hypothesis Testing |
| 2 | Study of multiple populations |
|  | **Machine Learning using R-Project & R-Studio (1 Week)** |
| 1 | Use of R-Packages & Basic Statistical Analysis using R-Project & R-Studio |
| 1 | Developing Sampling Distribution in R using small datasets |
| 1 | Pre-Processing Data & Linear Algebra for Machine Learning |
| 1 | Introduction to ML & Supervised ML for continuous variable (Regression) |
| 1 | Supervised ML for categorical variable (Classification) |
| 2 | Sentiment Analysis in R |
|  | **Machine Learning: Python (1.5 Weeks)** |
| 1 | Use of Python for Machine Learning applications & its basic libraries |
| 1 | Simple Regression in Python |
| 1 | Multiple Regression in Python & Curve fitting |
| 2 | Image Classification in Python (2 classes) |
| 2 | Image Classification in Python (2 classes) |
| 2 | Image Classification in Python (multiple classes) |
|  | **Machine Learning: Python Contd. (0.5 Weeks) & ML Tools (0.5 Weeks)** |
| 1 | Image Recognition in Python |
| 2 | Use of advanced Image Processing options using Open CV |
| 1 | Reinforcement Learning using Python |
| 1 | Tools for Machine Learning |
| 1 | Tools for Machine Learning |
| 1 | Advanced Topics in Machine Learning |
| **36** | **TOTAL** |