

Course Outline [Data Analysis and Visualization]

	Topic	Book Chapter	Assessment
Week 1	Introduction to Data Analysis and Visualization, Introduction to Data Scrapping		
Week 2	Data Scrapping tools and techniques with demo lecture using selenium		Project Assignment
Week 3	Data Wrangling Methods (Missing Value, Outline, Normalization)		
Week 4	Feature Extraction using deep learning methods (Correlations, Convolutions) w.r.t to Images and Signals		Quiz 1
Week 5	Embeddings (Bag of Words, Word2Vec, GloVe) w.r.t textual dataset.		Project Deliverable 1
Week 6	Sessional 1		
Week 7	Logistic Regression, Support Vector Machines (Mathematics and Applications)		Project Deliverable 2
Week 8	Neural Networks (Mathematics and Applications)		Quiz 2
Week 9	Convolutional Neural Networks (Mathematics and Applications)		
Week 10	Applications and different variations of deep learning models used in classification of data sets.		Quiz 3
Week 11	Examples (Demo Sessions) using Deep Learning Models		Quiz 4
Week 12	Sessional 2		
Week 13	Introduction to Data Visualization (Cube.js / D3.js)		Project Deliverable 3
Week 14	Professional tools and techniques for data visualization		
Week 15	Demo sessions on Data visualization		
Week 16	Advance Topics on Deep Learning and Visualizations, Revision Sessions		Project Deliverable 4
Week 17-19	Final Term Exams		

Assessments	Weightages
Quizzes	10%
Project	20%
Sessional I & II	30%
Final Term	40%
Total	100%