Introduction to Data Science and AI (using Python)

Duration 5 Days

Course Outline

Introduction to Data Science/AI

- Knowledge acquisition through data
- Knowledge representation
- Value creation
- Data Science overview
- AI ecosystem and new approach to analytics
- Key technologies

Data Science workflow

- Crisp-dm
- Data preparation
- Model planning
- Model building
- Communication
- Deployment

Data Science technologies

- Languages used for prototyping
- Big Data technologies
- End to end solutions to common problems
- Introduction to Python language
- Integrating Python with Spark

AI in Business

- AI ecosystem
- Ethics of AI
- How to drive AI in business

Data sources

- Types of data
- SQL vs NoSQL
- Data Storage

- Data preparation

Data Analysis – Statistical approach

- Probability
- Statistics
- Statistical modeling
- Applications in business using Python

Machine learning in business

- Supervised vs unsupervised
- Forecasting problems
- Classfication problems
- Clustering problems
- Anomaly detection
- Recommendation engines
- Association pattern mining
- Solving ML problems with Python language

Deep learning

- Problems where traditional ML algorithms fails
- Solving complicated problems with Deep Learning
- Introduction to Tensorflow

Natural Language processing

Data visualization

- Visual reporting outcomes from modeling
- Common pitfalls in visualization
- Data visualization with Python

From Data to Decision – communication

- Making impact: data driven story telling
- Influence effectivnes
- Managing Data Science projects