MODULES
Python for Data Analysis, Machine Learning Algorithms in Python and Deep Learning Algorithms

TOOLS
Caret, Dplyr, Ggplot2, Keras, Numpy, OpenCV, Pandas, Python, R, Scipy, Sklearn, TensorFlow

After completing this specialization, you would have mastered the most popular and powerful Machine Learning and Deep Learning algorithms that are commonly used across multiple industries to solve large scale problems with data, and are also used in building AI systems.

FULL STACK
MACHINE LEARNING AND AI

This program offers comprehensive learning in applying Machine Learning and Deep Learning techniques to both structured and unstructured data including text, images, audio and video data. After this course, you will be able to select, apply and deploy appropriate Machine Learning and Deep Learning algorithms depending on the type of problems and data involved.

PRE-REQUISITES
Knowledge of maths and statistics and Past coding experience is ideal.

Note: If you do not know coding, we will teach you the basics to prepare you for the Bootcamp program.

CHOOSE BETWEEN:

In-Person/Bootcamp format

- **Bootcamp Duration**
  12 weekends
- **Class Duration**
  12+ hours per weekend

IT SHARE
JUST CHANGE

WHAT DOES A ML+AI SPECIALIST DO?
Works closely with product teams to design and implement data based products; designs solutions for business problems leveraging data

THE GROWTH CURVE AHEAD

MACHINE LEANING SPECIALIST OR LEAD ML SPECIALIST → LEAD DATA SCIENTIST OR CHIEF DATA SCIENTIST

WHAT YOU GET

Capstone Project

Q&A Sessions

Additional Support

DOMAINS ML+AI SPECIALISTS WORK IN
Retail, eCommerce, Banks, Telecom, Manufacturing and other domains where data is generated.

IT SHARE
JUST CHANGE

FULL STACK MACHINE LEARNING AND AI

Module	Topic	Hours /Duration	Assignments
Introduction to Machine Learning & Python for Machine Learning	Introduction to Machine Learning Introduction to Python Introduction to Pandas Data Manipulation with Pandas Visualization in Python: MatplotLib IBM - Python for Data Science **Case Study - Software Product**	10	3 Graded Quizzes 8 Non Graded Quizzes 1 Non Graded – Case Study
Feature Engineering for Structured Data	Feature Engineering for Structured Data	10	2 Non Graded Quiz 1 Graded Quiz
Feature Engineering for Unstructured Data	Feature Engineering for Unstructured Data	10	2 Non Graded Quiz 1 Graded Quiz
Linear Models	Introduction to Linear Regression Logistic Regression	10	2 Non Graded Quizzes
Ensemble Models	Tree Based Regression and Classifier Random Forest and Gradient Boosted Machines **Case Study - Prices of AirBnB Properties in Amsterdam**	10	1 Non Graded Quiz 1 Graded – Case Study
Recommendation Engines	Memory Based Engines Model Based Engines: SVD & NMF	5	1 Graded Quiz
Clustering	K-Means Agglomerative Clustering **Case Study - Image Recognition**	5	1 Graded Quiz
Deep Learning Algorithms	Neural Networks Convolutional Neural Network RNN and LSTM IBM Content - Tensor Flow **Case Study - OCR to Detect Regional Langauages**	10	1 Non Graded Quiz 1 Graded – Case Study
Introduction to Artificial Intelligence	IBM Content	NA	