Real World Applications of Data Science

INSTRUCTOR: Hunter Jackson, Cofounder at Proscia + hunter@proscia.com

COURSE SUMMARY

Predictive analytics were first put to use at a large scale in the banking industry. “Quants” were predicting future stock prices based off of patterns deciphered by parsing through historical records of the behavior of the stocks. In today’s world, predictive analytics are ubiquitous in not only the banking industry, but also healthcare, business, and politics amongst many others.

In this course, we will build tools to learn from data organized from real-life events to make predictions about what the future might hold. We will utilize tools in feature extraction, machine learning and deep learning to make inferences about the very world that we live in.

This course is about streamlining the thought process used by data scientists and utilizing methodologies of data science to build real tools that could be applied in a number of industries. By the end of this course, you will be able to collect, organize, and learn from data generated in today’s world and catalyze a new way of thinking about problem solving.

PREREQUISITES + DOWNLOADS

- Basic understanding of command line operations
- A GitHub account (www.github.com)
- Please bring a laptop with Python installed and a working knowledge of Python (https://www.python.org/downloads/)
- Understanding of fundamental statistical concepts
- Ability to think like a data-driven problem solver

COURSE OUTLINE

Each class will be an engaging, interactive session where we build tools together to make predictions about our data. The classes will be focused on actually building the predictive tools; however, each class will have supplementary lecture notes that describe the methodologies in further detail and extra programming tasks if anyone wants extra practice.

Class 1: Introduction + Python Basics
- Fundamental functions, packages + libraries
- Train first model + make first prediction

Class 2: Machine Learning 101 + Model Evaluation
- Set up machine learning infrastructure
- Build first model + evaluate efficacy

Class 3: Deep Learning + Cloud Computing
- Construct deep learning architecture
- Apply to large-scale problem using a cloud computing instance

Class 4: Health + Data
- Advanced machine learning models
- Make predictions on health-based data

Class 5: Business + Data
- “Deeper layers” of deep learning
- Make prediction about a company’s customer acquisition strategy

Class 6: Politics + Data
- Make predictions about Baltimore mayoral race

LOGISTICS

- Start Date: Mon, March 21 at 6PM and will meet every Mon + Wed from 6-9PM for 3-weeks
- Location: Spark Baltimore @ 8 Market Place, Suite 300, Baltimore, MD 21202
- Course Cost: $499 *30% discount for Betamore Members*