

Bootcamp Curriculum

Week 1

Day 1: Orientation and Python Crash Course

Orientation (45 min - 1 hr)

Environment and Notebook Set-Up (30 min)

Python Fundamentals Crash Course + Code Walkthrough (2 hours)

Office Hours (1 hr)

Day 2: Data Manipulation

Python Homework Review (30 min)

Numpy Lecture + Code Walkthrough (1 hour)

Pandas and Dataframe Basics Lecture + Code Walkthrough (2 hours)

Office Hours (1 hr)

Day 3: Data Visualization

Homework Review (30 min)

Pandas Review (30 min)

Matplotlib Lecture + Code Walkthrough (1.5 hour)

Seaborn Lecture + Code Walkthrough (1 hour)

Office Hours (1 hr)

Day 4: Intro to Machine Learning

Capstone #1 Review: Data Science Essentials (1 hour)

Intro to ML (1hr)

Linear Regression Lecture + Code Walkthrough (1 hour)

Logistic Regression Lecture + Code Walkthrough (1 hour)

Office Hours (1 hr)

Day 5: ML Basics

KNN Lecture + Code Walkthrough (1 hour)

K-Means Clustering Lecture + Code Walkthrough (1 hour)

Community Building Activity (1 hour)

Week 2

Day 1: ML Basics Continued and Ensembling

Support Vector Machines + Code Walkthrough (1 hour)

Decision Trees and Random Forest + Code Walkthrough (1 hour)

Ensembling Strategy and Theory (1.5 hour)

Office Hours (1 hr)

Day 2: Neural Networks

Capstone #2 Review: ML Basics (1 hour)

Intro to Neural Networks + Math Theory (1.5 hr)

Neural Networks Continued + Code Walkthrough for Feed Forward NNs (1 hour)

Office Hours (1 hr)

Day 3: Computer Vision

Neural Networks Review (30 min)

Computer Vision CNN Lecture + Code Walkthrough (2 hours)

KNN and HOG (Google Glass AI) Lecture + Code Walkthrough (1 hour)

Office Hours (1 hr)

Day 4: Natural Language Processing

NLP Introduction + Code Walkthrough (1.5-2 hours)

SVM and KNN NLP (1.5 hours)

Guest Lecture (1 hour)

Office Hours (1 hour)

Day 5: Intro to Research

Capstone #3 Review: Deep Learning (1 hour)

Introduction to Research and Writing Papers (1 hour)

Research Practices (1 hour)

Community Building (1 hour)