Introduction

Agenda

- Lecture protocols
- ➤ Who am !?
- ➤ What to expect from this bootcamp?
- > Python History and Importance in Data Science
- ➤ Walkthrough through different IDEs

Lecture protocol

- > Use the raise hand on Zoom to ask questions (or send me a message). I will reach and answer your question as soon as I can.
- > Please keep microphones on mute otherwise.
- For additional questions, I will be taking breaks in between lectures and any pending questions or reexplanation of a concept can be done.
- > Enjoy the lecture!

What to expect from this bootcamp?

- > Very industrial oriented approaches that are connected to the industrial practices
- > Research and try!
- Reach out for any extra information
- > General paths include: data engineering, data science, machine learning engineering

A typical day in a learning lab

Monday's, Tuesday's, Wednesday's*, Thursday's, and Friday's

Morning lab activity

This is when you get your hands dirty. You'll be coding / analyzing data as you complete miniexercises as part of a bigger project. If you get stuck, our mentors will come running.

12:30PM - 1:00PM

Interactive afternoon lecture

1:30 PM - 4:00 PM

10:00 AM - 10:30 AM

Interactive morning lecture

Led by our instructors, morning lectures elaborate on the concepts you'll need to know to solve issues you may encounter in the morning in-class activity. 10:30 AM - 12:30 PM

Lunch & check-ins

This is your chance to stretch your legs, breathe fresh air, and grab some food before the afternoon lecture. Check-in with your employment coordinator and mentors if you have questions.

1:00 PM - 1:30 PM

Afternoon lab activity

*CATCH-UP & CHECK-IN DAY! No class!

Week 1: Programming for Data Science

Day 1:

- -Introduction
- -Environment Set Up
- -Introduction to Python Programming

Day 2:

Python Programm

Programming

Day 4:

APIs

Day 5:

Probability and Statistics

Week 2: Data Wrangling

Day 1: SQL

Day 2:

Pandas

Day 4:

-JSON

-XML

Day 5:

Project & Demo

Day

Week 3: Data Visualization & Machine Learning

Day 1:

Data Visualization

Day 2:

Data Preparation

Day 4:

Feature

Engineering

Day 5:

Unsupervised Learning

Week 4: Machine Learning & Program Wrap Up

Day 1:

Dimensionality Reduction

Day 2:

- -Sampling
- -Model Evaluation

Day 4:

- -DifferentModellingTechniques
- -Project Kick Off

Day 5:

Project & Demo Day

Feedback for Learning

```
assessment = {
completion:
 codeReviews:
 projects:
 quizAnswers:
 assistances:
```

Python History and Importance in Data Science

- ➤ Python was first introduced by **Guido Van Rossum** in 1991 at the National Research Institute for Mathematics and Computer Science, Netherlands (https://www.journaldev.com/34415/history-of-python-programming-language)
 - In 1994, Python 1.0 was released with new features like lambda, map, filter, and reduce.
 - > Python 2.0 added new features such as list comprehensions, garbage collection systems
 - > On December 3, 2008, Python 3.0 (also called "Py3K") was released. It was designed to rectify the fundamental flaw of the language. (https://www.javatpoint.com/python-history)
- ➤ Why Python for data science?
 - > Simple programming language to pick up, from a syntax point of view.
 - > Python also has an active community with a vast selection of libraries and resources.
 - Production-ready code can be written

Questions?

Thank you!