BLOSSOM ACADEMY

Program Syllabus

Specialization: *Introduction to Machine Learning*

Week 0

- Setting up Github
- Python environment setup
- Terminal Basics
- Virtual Environments
- Registration on Zindi and Kaggle
- Introduction to Jupyter notebooks

Week 1

- Python basics to intermediate
- Tour of the ecosystem tools (pandas, numpy, matplotlib)
- Introduction to Statistics
- Introduction to Machine learning (Supervised and Unsupervised)
  - Supervised learning
    - classification
    - regression
  - Unsupervised
    - clustering analysis
- Midweek exercise
- Problem definition (How to define problems as a data scientist)
- End of week project (Predicting Housing prices)

Week 2

- Introduction to HTML and CSS
- Introduction to web scraping
- Getting data from APIs
- Regular expressions
- Midweek exercise
- Basic Natural language processing
- Weekly project (Scrape data from real estate listing platforms and do some Exploratory Data analysis as well as predicting prices)

Week 3

- Introduction to deep learning
- Introduction to Pytorch and Keras
- Convolutional neural networks
- Pet classification using a CNN
- Introduction to transfer learning
- Weekly project (https://www.kaggle.com/c/dog-breed-identification)

Week 4

- Packaging in python
- Capstone project. Select a problem, Define it, build a model and deploy it in the cloud