DATA APPLICATION LAB
PYTHON AND QUANTITATIVE ANALYSIS

Updated Dec 8, 2016

Syllabus (Class time: 7:00 – 9:00 PST)

Class 1: Introducing Python (December 17)
- Python background
- Data types
- Syntax and rules

Class 2: Advanced Python (December 18)
- Data structure
- Linked list
- Functions
- OOP
- Algorithms (Interview questions)

Class 3: Monte Carlo simulation (December 20)
- Stochastic process
- Variance reduction
- Option pricing – American/ European
- Risk Measurement

Class 4: Principle Component Analysis & Bayesian Method (December 21)
- Replicated index
- Bayesian Regression

Class 5: Python Web Project (December 22)
- Web development using Python
- Project: Financial Index Replication using Principle Component Analysis
- Python Visualization

Bonus Class: (December 23)
- Career tips
- Resume