Dryden Bouamalay

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EDUCATION

CALIFORNIA INSTITUTE OF TECHNOLOGY

B.S. Computer Science
Grad. June 2016 | Pasadena, CA
Cumulative GPA: 3.2

LINKS

Github:
https://github.com/drydenb
LinkedIn:
https://www.linkedin.com/in/drydenb
Personal:
http://www.drydenbouamalay.com

COURSEWORK

COMPUTER SCIENCE

Algorithms
Machine Learning & Data Mining
Computer Architecture & Systems
Computer Graphics
Databases
Functional Programming

PHYSICS & MATHEMATICS

Lagrangian & Hamiltonian Mechanics
Classical Electrodynamics
Quantum Mechanics
Statistical Mechanics
Linear Algebra
Probability & Statistics
Differential Equations

SKILLS

PROGRAMMING

Proficient:
• Python • C++ • Scala
Familiar:
• Bash • C
• Haskell • PostgreSQL
• MATLAB • Mathematica
• Java • Assembly (IA32)

LIBRARIES, ETC.

Familiar:
• Git • Spark
• Pandas / NumPy • Tensorflow
• scikit-learn • Boost

FOREIGN LANGUAGE

• Japanese - *Intermediate*

EXPERIENCE

NETWORKED INSIGHTS

Data Engineer
October 2016 - Present (6 months) | Chicago, IL

- Designed relational database architectures and implemented ETL patterns for business analytic applications using PostgreSQL, Google BigQuery, and Python
- Implemented data ingestion for AWS databases from RESTful APIs using object-oriented design patterns in Python
- Performed raw text data processing using Google Cloud Dataproc to run Spark jobs with Scala and Java
- Currently constructing Tensorflow models to analyze and classify social media data

CRABEL CAPITAL MANAGEMENT

Software Engineering Intern
June 2016 - August 2016 (3 months) | Century City, CA

- Developed C++ software to interface with proprietary market data storage for backtesting high-frequency trading strategies.
- Tested and debugged order book implementations for the Eurex Exchange.
- Engineered solutions for existing software to successfully convert FIX/FAST market data to proprietary storage with the QuickFAST C++ library. In addition, wrote scripts in Python to automate data conversion and processing.
- The majority of the software was developed and designed in C++ using templates and object-oriented design patterns in Fedora Linux.

MITSUBISHI ADVANCED TECHNOLOGY R&D

Software Engineering Intern
June 2015 - August 2015 (3 months) | Amagasaki, Japan

- Investigated algorithms and methods to perform medical image registration.
- Implemented multi-resolution and multi-stage image registration algorithms using CMake and the ITK library (C++).
- Developed an application in Visual Studio C# (WPF) that allowed users to perform image registration algorithms on 2D and 3D images using the Elastix toolkit.

PROJECTS

Text Classification

- *Python*: Classified speeches using fundamental machine learning techniques such as decision trees and random forests, using boosting and bagging methods where appropriate. Final models were selected via ensemble methods.

Generating Shakespearean Sonnets with Hidden Markov Models

- *Python*: Implemented the EM algorithm to train the parameters of a Hidden Markov Model via unsupervised learning on 154 of Shakespeare's sonnets. Sample sonnets were generated via the trained model.

Computer Go Engine

- *C++*, *Python*: Used the Neon deep learning framework to construct a convolutional neural network to predict expert Go moves.