Stuart Sy

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EDUCATION

Stanford University – Stanford, CA — Sept 2014 – Present

- B.S. Computer Science 2018, Cumulative *GPA: 3.81*
- Related Coursework: Artificial Intelligence: Principles and Techniques (CS221), Machine Learning (CS229), Computer and Network Security (CS155), Principles of Computer Systems (CS110), Web Applications (CS142)

International School Manila – Taguig, Philippines — Aug 2010 – May 2014

- Salutatorian, GPA: 3.989, IB Score: 45/45, National Honor Society, Cum Laude Honor Society

WORK EXPERIENCE

Evernote – Redwood City, CA — Jun 2016 – Sept 2016

Data Engineering Intern

- Evaluated and integrated *Airflow*, a workflow management system, into the data pipeline as a replacement for the old *cron/bash* system. Migrated 90+ scripts worth of critical ETLs into python workflow definitions, allowing for more resilient and maintainable data pipeline management/deployment
- Created a self-service analytics web portal for analysts to schedule recurring SQL reports and automate table creation/sync from Google Spreadsheets to the *ParAccel* analytics database
- Set up a PoC machine learning pipeline through *Airflow* to periodically train on user activity metadata, and feed predictions for user conversions into the data warehouse for marketing/promotions targeting

Stanford Computer Science Department – Stanford, CA — Jan 2016 – Present

Section Leader

- Taught a weekly discussion section of Programming Methodology/Abstractions and held weekly office hours
- Debugged, graded, and provided feedback on 106A and 106B students' Java and C++ programming assignments

Focus Global Inc (Home Furnishings Distributor) – Mandaluyong, Philippines — Jun 2015 – Aug 2015

Software Engineering Intern

- Revamped company's corporate website (focusglobalinc.com), and created a *Django*-powered furniture inventory catalog (ethanallen.com.ph) integrated with a RESTful API, which resulted in much faster inventory lookups
- Automated collection of customer satisfaction surveys, and created a dashboard for visualizing responses with *d3.js*

PROJECTS

MapReduce Framework — Mar 2016

- A basic MapReduce implementation built to run on Stanford's myth computer clusters and shared AFS filesystem
- Uses a threadpool and client/server sockets to spawn workers on separate machines to collectively operate on input
- C++ mutexes and semaphores used to ensure thread-safety and avoid concurrency related race-conditions

MLB (Machine Learning Baseball) — Nov 2015

- A program which attempts to choose the best possible fantasy baseball team; achieves an average of 70% of best possible score in 10 seasons of test cases
- Used the *pandas* data science library to clean, format, and extract relevant data from 100 years of baseball statistics
- Predicts each individual player's score with linear regression algorithms from *scikit-learn* regression and models/solves the task of choosing the team as a constraint satisfaction problem

Autonomous Robot Pacman — Sept 2015

- Three 40x40cm wheeled robots (two ghosts and pacman) programmed to autonomously play a game of Pacman
- Robots communicate via a Bluetooth API (converted with pyobjc) which interfaces with the OSX CoreBluetooth stack
- Game engine uses an Expectimax game tree (depth 4) to evaluate possible moves, a custom evaluation function to capture the value of various states, and alpha/beta pruning to speed up the algorithm