Joshua Cook

Bash, C, Latex, Python, Ruby
BLAS, LAPACK, numpy
Computational Mathematics, Machine Learning

+13104331646 · joshuacook.me · me@joshuacook.me

Experience

7/2016 - Present **Senior Python Engineer** for Inrix (Santa Monica, Ca)

- Design and implement predictive models for parking data using pure numpy
- Develop data quality metrics and use to assess proprietary and competitor data
- Elaborate upon existing in-house data processing and analysis tools

1/2016 - 7/2016 **Automation Engineer** for Telescope, Inc (Los Angeles, Ca)

- Designed and built automation platform for continuous automated testing of platform API using AWS Elastic Compute Cloud, Simple Queue Service(AWS Ruby SDK), and Relational Database Service (MySQL).
- Wrote all system software and unit tests using Ruby frameworks (Rails, Sinatra, and RSpec).

5/2015 - 1/2016 **Sofware Quality Assurance Engineer** for Invoca (Santa Barbara, Ca)

- Performed quality assurance testing for a Ruby-on-Rails web application (Ruby, RSpec, Chef).
- Served as scrum master for development team.

8/2014 - 5/2015 **Computational Mathematics Internship** in the Lab of Dr. Jussi Eloranta

Cal State Northridge, Department of Chemistry and Biochemistry (Northridge, Ca)

- Elaborated upon algorithms for diagonalizing large matrices (C, Python).
- Configured and maintained student Linux workstations (Fedora).

8/2012 - 8/2014 **Site Architect** for Phylia de M. (Los Angeles, Ca)

- Designed site architecture using Linux (Ubuntu), Apache, MySQL, and Magento (PHP).
- Configured and provisioned Linux servers for development and production environments.
- Managed multiple MySQL databases via scripted backup and maintenance.

7/2010 - 6/2012 **Lecturer** in the Graduate School of Education & Information Studies at UCLA (Los Angeles, Ca)

- Taught graduate students earning their Masters of Education
- Taught pre-service teachers earning Secondary Credential in Mathematics

1/2005 - 6/2010 **High School Mathematics Teacher** (Los Angeles, Ca)

- Taught Geometry and Pre-Calculus at the Secondary-level in South Los Angeles in English and Spanish.
- Trained student teachers.
- Served as Department Chair Animo Justice Charter High School, 2007-2010.

Projects & Publications

AWS System Architecture

Image Analysis System

- uses AWS Elastic Compute Cloud, Simple Queue Service, and Relational Database Service (PostgreSQL).

API platform and database

- maintain proprietary API platform and database
- running on AWS Elastic Compute Cloud and Relational Database Service
- running Django, PostgreSQL, Redis, MongoDB, and Celery.

C & Ruby

`simple_sipp_load_tester` **gem**,

- a wrapper to a C tool for load testing SIP platforms.

`invoke_call` **gem**

- a command line SIP client.

Docker & Jupyter

the Containerized Jupyter Platform

- a reference text on using Docker to build a distributed data science platform.

Responsive Artificial Intelligence, *In Progress*

- leverages five different Docker images and the `docker-compose` tool to build an interactive system with delayed job processing.

Machine Learning

Responsive Artificial Intelligence, *In Progress*

- uses Syntaxnet as NLP parser and a Q-Learning Algorithm to train the AI to respond to elementary set theory questions.

Train Smartcab to Drive

- uses reinforcement learning to train a smartcab to follow the rules of the road.

Simple Wikipedia Search Engine

- uses latent semantic analysis to perform search over a Wikipedia category.

Education

Master of Applied Statistics at UCLA *expected completion May 2018* (Los Angeles, Ca)
Bachelor of Science in Mathematics at Cal State Northridge (Northridge, Ca).

- Did graduate-level work in computational materials science through NSF sponsored internship with Chemistry lab.
- Presented poster, *Applications of Imaginary Time Propagation Method in Material Research*.
- Wrote senior thesis, *Computational Methods in Molecular Quantum Mechanics*.

Master of Education at UCLA (Los Angeles, Ca)
Bachelor of Arts in English at UC Berkeley (Berkeley, Ca).
Machine Learning Nanodegree via Udacity *expected completion August 2016*