

Joshua Cook

Bash, C, Latex, Python, Ruby

BLAS/Lapack, numpy/scipy/pandas, `scikit-image`, `scikit-learn`

Computational Mathematics, Machine Learning

*nix, AWS, Chef, Docker, Heroku, RESTful APIs, SIP/VOIP, SQL/NoSQL, web sockets, Vagrant

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



Experience

- | | |
|------------------|---|
| 7/2016 - Present | Senior Python Engineer for Inrix (Santa Monica, Ca) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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 | Software Quality Assurance Engineer for Invoca (Santa Barbara, Ca) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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) <ul style="list-style-type: none">• 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. |
| 1/2005 - 6/2012 | High School Mathematics Teacher (Los Angeles, Ca) <ul style="list-style-type: none">• 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 | Designed image analysis system using AWS Elastic Compute Cloud, Simple Queue Service, and Relational Database Service (PostgreSQL). Wrote all system software and unit tests using Ruby frameworks (Rails, Sinatra, and RSpec) and Python frameworks (numpy, <code>scikit-image</code> , and <code>scikit-learn</code>). |
| C & Ruby | simple_sipp_load_tester gem , a wrapper to a complex 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.

Machine Learning ***Responsive Artificial Intelligence, In Progress*** a project toward the completion of my Udacity Machine Learning Nanodegree. Leverages 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***](http://joshuacook.me/filesystem/applications_of_imaginary_time_propagation.pdf/).

- Wrote senior thesis, [***Computational Methods in Molecular Quantum Mechanics***](<https://leanpub.com/computationalmethodsinmolecularquantummechanics>).

: **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*