Jin (Vincent) ZHANG

SOFTWARE ENGINEER

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		GITHUB	github.com/vincenttide

EDUCATION

2009 University of California San Diego

Bachelor of Science Bioinformatics with specialization in Computer Science

TECHNOLOGY STACK

Python ● Flask ● Django ● HTML ● CSS ● Javascript ● Linux ● Git ● SQL

PROJECTS

Django Channels, WebSockets, and Celery Proof of Concept

A proof of concept web application featuring a background task runner. The user can start a long running background task and get immediate notification when the job has started or completed and is able to cancel jobs in progress. The status updates happen without a browser refresh. This is achieved using Django Channels which uses WebSockets on the back end for duplex communication. When the app receives a job start message from WebSockets, a Celery task is started to simulate a long running process. Upon completion, the browser client is sent a status update. The technology stack used was Python, Django web framework, Django Channels and WebSockets, PostgreSQL database, Redis, Celery task queue, and RabbitMQ messaging layer.

StellarRobot

A web application designed for the Stellar digital currency backed by the popular payments company Stripe. StellarRobot tracks deposits made to the application and sends a corresponding return payment minus a small fee. A WebSockets client listens for incoming transactions affecting interested accounts and starts a corresponding Celery task to handle each message. Return payments are structured in a way to protect against network failure and retries without sending multiple payments. The technology stack used was Python, Flask web framework, PostgreSQL database, WebSockets to listen for incoming transactions, Celery task management, RabbitMQ messaging layer, Redis to handle task locking, and Nginx as a reverse proxy in front of Gunicorn web server hosted on Digital Ocean.

CheckRobot.com

A free check printing service for small businesses and home users. Users are able to add their bank account details and save regular payees so writing a check is as simple as entering in the amount. Written in Python, Flask web framework, PostgreSQL database, Twitter Bootstrap for user interface, ReportLab for PDF generation and SSL/HTTPS on Nginx.

RentMath.io

A simple rental property income calculator. Calculates monthly mortgage payments, cash flow, capitalization rate, and other metrics. Written in Python, Flask web framework and Twitter Bootstrap.

Areacodely.com

A location lookup tool using the first six digits (area code and prefix) of a United States phone number. Data is gathered from the North American Numbering Plan Administration (NANPA). Written in Python, Flask web framework and PostgreSQL database.

WORK EXPERIENCE

Python Developer   Freelance

2014 - Present   Barre Vermont

- Freelance Python developer working for clients on projects including web development using Django and Flask web frameworks.
- Created an internal web application to track packages using QR codes. The application created printable QR labels that could be scanned back into the application using a mobile device.

Manager   Asian Gourmet

2012 - 2016   Barre Vermont

- Manage kitchen and server staff, handle customer issues, and other management duties.

Bioinformatics Research Associate   Veterans Medical Research Foundation

2009 - 2011   San Diego California

- Python programming language used to implement algorithms, data processing, and various automation tasks.
- Conduct data analysis of Affymetrix and Illumina microarray gene expression data including visualization techniques such as heatmaps and hierarchical clustering methods.
- Design protocols and carry out wet lab experiments under sterilized flow hood environments.
- Contributions led to four manuscript authorships in scientific peer reviewed journals including one as first author.

PUBLICATIONS

[1] Nadejda Beliakova-Bethell, **Jin X Zhang**, Akul Singhania, Vivian Lee, Valeri H Terry, Douglas D Richman, Celsa A Spina, and Christopher H Woelk. Suberoylanilide hydroxamic acid induces limited changes in the transcriptome of primary CD4+ T cells. AIDS 27, 29-37. 2013.

[2] **Jin X Zhang**, Christopher H Woelk, Lorraine Walls, Suganya Viriyakosol, Akul Singhania, Theo N Kirkland, and Joshua Fierer. Factors regulated by interferon gamma and hypoxia-inducible factor 1A contribute to responses that protect mice from Coccidioides immitis infection. BMC Microbiology 12:218. 2012.

[3] Josué Pérez-Santiago, Rebeca Diez-Alarcia, Luis F Callado, **Jin X Zhang**, Gursharan Chana, Cory H White, Stephen J Glatt, Ming T Tsuang, Ian P Everall, J Javier Meana, and Christopher H Woelk. A combined analysis of microarray gene expression studies of the human prefrontal cortex identifies genes implicated in schizophrenia. Journal of Psychiatric Research 46, 1464-74. 2012.

[4] Brett N Bowman, Paul R McAdam, Sandro Vivona, **Jin X Zhang**, Tiffany Luong, Richard K Belew, Harpal Sahota, Donald Guiney, Faramarz Valafar, Joshua Fierer, and Christopher H Woelk. Improving reverse vaccinology with a machine learning approach. Vaccine 29, 8156-64. 2011.