Jin (Vincent) ZHANG

SOFTWARE ENGINEER

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EDUCATION

2009 University of California San Diego

B.S. Bioinformatics with specialization in Computer Science

TECHNOLOGY STACK

Python ● Flask ● Django ● React ● Javascript ● SASS CSS ● HTML ● Linux ● Git ● SQL
PostgreSQL ● MongoDB ● API Development ● Redis ● WebSockets ● Nginx

PROJECTS

Django REST Framework, WebSockets, and Celery Proof of Concept

- User is able to start a long running background task and get immediate notification when job has started and completed without a browser refresh.
- Achieved using Django REST Framework API server and Django Channels which uses WebSockets on the back end for duplex communication.
- Upon receiving a job start API request, a Celery task is started to simulate a long running process.
- React JavaScript library was used to build frontend interface, make AJAX calls to API server, and works with long polling along with WebSockets for real time updates.
- The technology stack used was React frontend, Python, Django REST framework, Django Channels, WebSockets, PostgreSQL database, Redis, and Celery task queue.

StellarRobot

- A web application for the Stellar digital currency that can send and receive payments on the Stellar network.
- 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 check printing web application for small businesses in which users are able to save bank account details and regular payees to simplify new check creation.
- Users are able to perform CRUD (Create, Read, Update, Delete) operations on database models.
- 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 paper authorships in scientific peer reviewed journals including one as first author.

SELECT 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.