Jay Fan

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Work Experience

Software Engineer 2024 – Present

Relay

- Overhauled the onboarding page for one of our core services using **React** and **TypeScript**. The new flow improved the user experience and increased the onboarding completion rate by **35%**.
- Identified and improved bottlenecks in our trunk-based development process in **Github Actions**. Parallelized our testing suites which improved our **continuous integration** process by reducing the time taken to merge in pull requests by **40%**.
- Collaborated with cross-functional teams and product designers to create an in-house frontend component library using **React** and **Tailwind**. All teams have begun the migration process to adopt the component library, while the work to create the more complex components is ongoing.

Software Engineer 2022 – 2024

Laserfiche

- Migrated our **AWS EC2** containers to a new architecture utilizing **Kubernetes** services, **AWS SQS** queues, and **AWS SNS** topics to improve the user experience and scalability of our application. Users were able to get instant feedback upon making requests, and the new service has not dropped a single request since the migration.
- Enhanced the performance of two **C#** microservices that made requests to our **PostgreSQL** database by implementing batch and asynchronous **RESTful APIs**. Our biggest clients with more than 20,000 users observed a **runtime reduction of 93%** when performing large-scale operations.
- Created **RESTful APIs** using **TypeScript** and **Node** to serve client requests on our account control system. Daily unit, functionality, and webapi test results are monitored via **Grafana** dashboards, and they currently have a success rate of **98% over the last 90 days**.
- Implemented a user feedback system in **Python** and deployed via **AWS Lambda** functions. The system stored messages in **AWS Redshift** and **S3**, and allowed users to attach image and GIF files. After testing, the system was deployed to all user-facing products and is the primary way that we gather feedback from clients.
- Created an internal web application using **React** and **Flask**, enabling non-technical users to track their events in Redshift via drop-down menus. Managed the deployment with **Docker** containers, using **Nginx** as the reverse proxy for efficient application delivery.

Data Analyst & Integrator 2021 – 2022

City of Toronto

- Led a project to create a web application using **JavaScript** and **React** to visualize park utilization across the city. The application was used internally by city planners and policy makers to drive decisions on park maintenance and amenity development.
- Wrote and deployed **Python** scripts to automate the quarterly extraction of recreation program performance metrics, transitioning away from manual SQL queries. This automation reduced human error and decreased analysis times by **90%**.
- Designed and created data visualization dashboards using **Plotly** and deployed internally with **Docker**. Optimized data accessibility and reduced internal ad-hoc data requests by **over 80%**.
- Created and documented an internal system to automate our data pipelines using a **Flask** server run on a remote host. Allowed our dashboards to be updated on a fixed schedule without manual intervention.

Education

Master of Data Analytics

Western University · Ontario, Canada · 2020

Bachelor of Medical Science, Biochemistry of Infection and Immunity

Western University · Ontario, Canada · 2019

Technical Skills

Programming Languages: Python, TypeScript, JavaScript, C#, SQL, Bash

Frameworks: React, Angular, Tailwind, Entity Framework, Vue, RxJS, Express, Flask, Django, Plotly

Tools & Technologies: Kubernetes, PostgreSQL, Node, Docker, Cloud Formation, Redshift, S3, DynamoDB, Nginx, Kibana, Grafana, Git