

Harrod Scott Tang

Oakland, CA | <https://www.linkedin.com/in/harrod-tang/> | (510) 220-9838 | harrodtang@gmail.com

EDUCATION

University of California, Davis

Bachelor of Science in Computer Science (GPA: 3.768)

Davis, California

September 2018 – June 2022

WORK EXPERIENCE

Nielsen

Software Engineer – Platform Tools DevOps Team

July 2022 – Present

- Spearheaded the creation of Platform's next-generation internal application.
 - Developed the frontend in **React**, integrating libraries such as **Material-UI** for a modern and responsive user interface.
 - Built the backend infrastructure with **Golang (Gin)** to handle routes and efficiently process data.
 - Created a **Python microservice** to automate key processes, including dequeuing from **AWS SQS**, triggering **GitLab** pipelines, and updating **PostgreSQL** tables.
 - Implemented user authentication and token validation using **Okta**.
 - Instituted **unit tests** to maintain code quality and reliability.
 - Constructed application images with **Docker**, ensuring production-ready image builds.
 - Deployed images onto **Kubernetes clusters** via **Helm charts**, enhancing scalability and manageability.
 - Developed **GitLab CI/CD** pipelines to automate image builds and deployments.
 - Automated version control via CI/CD integration with **semantic release**.
- Developed the end-to-end onboarding process for one of Platform's core services.
 - Crafted a multi-step onboarding form using **React**.
 - Prepopulated fields in the onboarding form with calls to **GitLab's API**.
 - Developed an additional view in the admin panel using **React** for request management, approvals, and edits.
 - Developed the corresponding **Java Spring Boot REST API** to process update **PostgreSQL tables** accordingly.
 - Implemented an additional service in the backend that utilizes a **GitLab trigger token** to trigger a **CI/CD** pipeline.
- Enhanced a Flask application through integrating authentication and auditing.
 - Integrated an **Okta middleware** to intercept and authenticate every request.
 - Developed **system-wide auditing** to meticulously track and record all operations.
 - Leveraged **SQLAlchemy** to dynamically create a dedicated auditing table upon application startup, ensuring data persistence.
 - Implemented the logging of operation details into a **PostgreSQL table**, providing a comprehensive record of all application activities.

Software Engineering Intern – Platform Tools DevOps Team

June 2021 – August 2021

- Designed and implemented an algorithm that identifies optimal hours to scale server resources.
 - Integrated the algorithm into the backend **Spring Boot** application as a **Java REST API**.
 - Built a **React** frontend to help visualize the data.
 - Projected to save the team over \$400,000 annually.
- Developed a plugin that allows users to restart Kubernetes pods from the Apache Airflow webpage
 - Wrote a **Java REST API** that deletes specified **Kubernetes** pods running in the **Airflow** cluster
 - Leveraged **Python**, **Flask**, and **HTML** to build the plugin into the user interface
 - Provides admins on other teams with the ability to immediately restart their Airflow instances themselves without having to contact someone on the Platform Tools Team
- Created an algorithm that determines which tables in the data lake to cache
 - Developed a **Java REST API** that utilizes a **SQL** query to return the most frequently accessed schemas in the data lake, along with the most accessed tables in each schema
 - Built an interactive **React** frontend using **Apache ECharts**
 - Resulted in faster access times to the most popular tables in the data lake

TECHNICAL SKILLS

Languages: Python, JavaScript, Java, Golang

Tools: Git, Kubernetes, Docker, GitLab CI/CD, AWS, PostgreSQL, Helm, Apache Airflow, Okta