

Zackary Santana

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Education

Florida International University

Expected Graduation: April 2023*

GPA: 3.6

- Bachelor of Science in Computer Science
- Advance UNIX Programming, Algorithm Techniques, Artificial Intelligence, Data Mining, Data Structures, Database Administration, Database Management, Computational Geometry, Human-Computer Interaction, Mobile App Dev, Programming Languages, Operating Systems, Software Engineering I/II

Work Experience

Software Engineer Intern

June 2022 – August 2022

MongoDB (<https://github.com/evergreen-ci/evergreen>)

- Direct experience working on distributed systems internal facing **CI/CD** testing tooling, handling 1-2 engineering requests every week from other engineers at MongoDB, dog-feeding and pushing those updates live to increase other team velocities.
 - This ranged from changing the **CLI** to accept new flags, represent new database models, or fix commands under certain conditions like overriding defaults, to creating/adjusting **REST** endpoints to better align with the docs.
- Concurrently worked on uncoupling archiving and restarting logic for tests to allow for specific grouping of tests to restart only failed- teams often used these groupings with **800+ tests** that would run on average for **2 hours**. Restarting them before would restart all tests, with my changes it would cut down the restarted tests from 800+ → 1-5, this reduced restart time/machine usage by up to **90%**.
- Used tools like **Splunk** to query and test about the data of restarted tests, creating new pipelines in **MongoDB** to support the database model changes, **Golang** as the primary language for the tooling, **TypeScript/React.js** for UI changes.

Software Engineer Intern

June 2021 – August 2021

MetLife

- Improved the UX (user experience) of the department-wide smoke test website used by **200+ teams**. The site previously had blocked executions of similar requests in multiple sections of the site and would not cache responses even on the same client session. Implemented coinciding execution of requests bringing the site from a **10 seconds-30 seconds** on a cold start **down to 1 second**.
- Migrated queries to **MongoDB** to the backend (**Restify**) and pinging endpoints (**JVM's**) to the frontend (**Angular.js**) which reduced server load, improved overall server response time, and resulted in a fast TTFB (Time-to-first-byte).

Skills

Languages: TypeScript, JavaScript, Golang, SQL, Python, Java, C, Dart, Bash, HTML, CSS

Web Technology: React.js, Express.js, Prisma, Node.js/NPM, Flask, Angular.js, SCSS, Next.js, Svelte 3, Vite, Webpack, Tailwind

General Technology: Git, Docker, UNIX/Linux/WSL, MongoDB, PostgreSQL, SQLite, Firebase, Prometheus, Grafana

Additional Technology: Deno, Preact.js, Twins, Remix.js, Fresh, Cypress, Jest

Productivity: JIRA, Figma, Notion, Microsoft Teams, Trello, Slite, Slack

Projects

CodeConstants (<https://codeconstants.com>)

October 2022 - Present

Web Application

- Large-scale application hosted via various custom docker images, it includes the main application which is a **React.js** and **Express.js** server that fetches from 3 different microservices.
 - Golang microservice: Provides an API that receives data from the frontend, authenticating requests with the TypeScript microservice, and “promoting” certain results to the Python microservice.
 - Python microservice: Responsible for a stable API that shows posts/info that are personally verified by an admin of the site, or automatically scrapped using a cron job and stored.
 - TypeScript microservice: Handles general utility cases for all microservices like authentication and emailing verification.
- Targets serving a fast website that has other working examples like a visualizer for sorting, random number generator with persistence, and a simple reaction timer game.

UPE - FIU (<https://upefiu.io>)

January 2022 - June 2022

Web Application

- Medium-scale application that is mostly monolithic that serves news, updates, and event information relating to UPE @ FIU. The daily active users is around 30 with a session span of around 3 pages which is held in a **Prometheus** server and visualized through a **Grafana** dashboard. Every week with an event, there are around 80-100 daily active users.
- **Prisma** is used as an ORM to provide a type-safe way to interact with the database, all pages are SSR and hydrated when the client receives them.