

# Brian Ton

[brian.m.ton@gmail.com](mailto:brian.m.ton@gmail.com) | [brianton.me](https://brianton.me) | [github.com/mrtonbrian](https://github.com/mrtonbrian) | [linkedin.com/in/brian-m-ton/](https://linkedin.com/in/brian-m-ton/)

## EDUCATION

### University of California, San Diego

La Jolla, CA

*B.S. Computer Science, B.S. Mathematics — GPA: 4.0*

*September 2021 – December 2024*

**Relevant Coursework:** Data Structures, Algorithms, Operating Systems, Databases, Cryptography, Mathematical Statistics, Linear Algebra, Computer Architecture, Abstract Algebra, Real Analysis, Probability Theory

## EXPERIENCE

### Workday

June 2024 – September 2024

*Software Development Engineer Intern*

*Pleasanton, CA*

- Engineered new Prometheus monitoring tools for core authentication services, enabling real-time tracking of over **2 million daily logins** using **Java Spring** and **Scala Play**
- Collaborated with authentication product and engineering teams to design and deploy a **Grafana-based** dashboard system, standardizing and visualizing **Service Level Objective (SLO)** metrics across the organization
- Enhanced the performance of global authentication services by introducing **Kotlin coroutines** to parallelize downstream requests, cutting **99th-percentile latencies** from **over 25s** to **under 5s**.
- Streamlined developer workflows by addressing bugs and removing deprecated **Go** code within a user support tool

### Walmart Global Tech

June 2023 – August 2023

*Software Engineer Intern*

*Sunnyvale, CA*

- Implemented internal library dependency validation in **Cassandra** for **8** item data microservices, ensuring data integrity and reducing deployment errors in large-scale retail operations
- Improved the reliability of a key **Java Spring** item catalog microservice by integrating an additional validation layer, reducing errors in **JSON DAG** data workflow definitions
- Simplified creation of data flows, shrinking setup files by over **300 lines** each and boosting developer productivity

### Mercury Alert

September 2021 – Present

*Software Engineer Intern*

*La Jolla, CA*

- Developed robust cross-platform features for payments, analytics, and notifications using **ReactJS**, **React Native**, and **AWS Lambda**, significantly enhancing user experience
- Architected a real-time emergency alert system for eldercare facilities, utilizing **AWS API Gateway** and **WebSockets**, reducing nursing staff response times from **hours** to **minutes**
- Led migration from **DynamoDB** to **PostgreSQL**, enhancing data normalization and analytics performance
- Built a **WebRTC-based** two-way calling system between camera devices and mobile app

## PROJECTS

### miniredis

- Built a lightweight, concurrent in-memory data store compatible with **Redis**, implemented entirely in **Go**.
- Implemented a **thread-safe map** and **command pipelining**, optimizing throughput under high load scenarios.
- Conducted performance benchmarking using **redis-benchmark**, achieving **2.3× faster GET operation throughput (5.47M ops/sec)** and similar SET operation throughput (**1.72M ops/sec**) compared to Redis

### TrAIner

- Developed an AI-powered fitness tracking mobile app using **React Native** and **TensorFlow's** pose estimation model, providing real-time exercise feedback through phone cameras.
- Built a scalable backend using **Flask REST API** and **SQLite** for logging and visualizing workout data
- Won **1st place/“Most Popular” awards** at CincyHacks 2021 (runner-up for “Best Startup” prize)

## TECHNICAL SKILLS

**Languages:** Python, Java, C++, C, Go/Golang, SQL (PostgreSQL), HTML/CSS/JavaScript, Scala, Kotlin, PromQL

**Frameworks:** Spring Boot, Spring, React/ReactJS, React Native, Flask, Django, JUnit, Expo

**Tools:** Unix/Linux, Git, AWS (S3, Cloudfront, API Gateway, Lambda, RDS, DynamoDB), Docker, Kubernetes

## RECOGNITIONS

USACO Gold Division, Eagle Scout, NSA Stokes Scholarship Finalist