

HERMAN HUNDSBERGER

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Education

University of California, San Diego

Sep 2023 – Present

Bachelor of Science in Mathematics - Computer Science, GPA: 3.9

La Jolla, CA

- **Relevant Coursework:** Data Structures & Algorithms, Operating Systems, Object-Oriented Programming, API Design, Software Tools & Methodology, Systems Programming, Data Modeling & Processing

Experience

Qualcomm Institute Makerspace

Feb 2025 – Present

Software Developer

San Diego, CA

- Built **RFID check-in platform** serving **8,000+ UCSD students** with **99.9%** uptime using microservices architecture
- Refactored legacy codebase with overloaded API calls to **local-first architecture** and **asynchronous queuing**
- Integrated local database calls with deferred **Google Sheets API** sync, improving check-in speed by **92%**
- Implemented **thread-safe queue system** and automated failover, preventing race conditions across distributed nodes

Yonder Dynamics

Oct 2024 – Present

Lead Software Engineer

San Diego, CA

- Led **15-person engineering team** to **5th place nationally** in University Rover Challenge out of 100+ teams
- Integrated non-ROS **cameras** running on **Flask** servers into ROS system with **React Redux** frontend interface
- Established **documentation standards** and onboarding workflows, training new members with introductory **Arduino NeoPixel** projects to increase onboarding speed by **33%**

UCSD Bioengineering Research Lab

Feb 2025 – Present

Research Software Engineer

San Diego, CA

- Designed **state machine IoT system** with sensor integration, quantifying behavioral responses in training paradigms
- Collaborated with 6+ interdisciplinary members to **translate software-hardware limitations** into system design
- Built fault-tolerant data pipeline with **SQLite buffering** achieving **100% data fidelity** across Pi nodes
- Automated hardware control systems reducing manual intervention by **75%** through **Python** event handling

Projects

Torrentia – High-Performance BitTorrent Client | *Go, gRPC, Distributed Systems*

Aug 2025 – Present

- Built **Go** BitTorrent client with concurrent goroutines, achieving **40%** throughput improvement over baseline
- Architected **gRPC messaging** with distributed hash table (**DHT**) integration, enabling efficient peer discovery
- Implemented pluggable storage layer with asynchronous disk I/O and checksum validation for reliable data integrity

Splitr – Expense Splitting App | *React Native, Google Vision API, Python (FastAPI), Firebase*

Apr 2025

- Built a **React Native** app that automates receipt parsing and expense splitting, eliminating manual calculations
- Integrated **Google Vision OCR** with an **OpenAI** model to parse receipt images into JSON with **92%** accuracy
- Designed interactive UI in **React Native** to allocate receipt items to members, dynamically adjusting tax and tips
- Implemented secure user authentication via **Firebase** and SMS verification, enabling user receipt history tracking

CrisisCompass – Disaster Resource Platform | *AWS Amplify, PostgreSQL, Node.js, React*

Jan 2025

- Developed and deployed a full-stack **React** web app to connect disaster victims with **100+** critical local resources
- Integrated **Google Places API** for users to filter nearby shelters, food banks, and hospitals within a 10km radius
- Built a location-based live chat with **PostgreSQL/Supabase**, streaming real-time updates under **200ms** latency

Technical Skills

Languages: Python, C, C++, Java, JavaScript, TypeScript, Go, SQL (PostgreSQL, SQLite), HTML, CSS

Frameworks & Libraries: Linux, React/React Native, Node.js, Angular, Vue, Flask, AWS, Docker, REST APIs, Git

Concepts: Cloud Platforms, Containers, Container Orchestration, CI/CD, Microservices, API Design, Automation Testing

Tools: Git, IDEs (VS Code, Eclipse), Jenkins, Travis, Selenium, Playwright, Puppeteer, Cypress