Farhan Mahbub

farhanmahbub.dev/ | farhanmahbub88@gmail.com | linkedin.com/in/farhan-mahbub/ | github.com/Farbubby/

EDUCATION

University of Central Florida Orlando, FL
Master of Science in Computer Science *Aug. 2025 – Dec. 2026*
Bachelor of Science in Computer Science | GPA: 3.90 *Aug. 2021 – May. 2025*

EXPERIENCE

Software Engineer CWEP *Jun. 2023 – Jun. 2024*
Lockheed Martin *Orlando, FL*
- Developed embedded system software in **C++** to receive GPS signals and conducted simulation-based testing, reducing errors and enhancing reliability in complex environments.
- Constructed a robust internal GUI tool using **Python** and **PyQt** to capture simulation data with built-in validation, reducing data discrepancies.

Software Engineer *Oct. 2022 – Jun. 2024*
Knight Hacks *Orlando, FL*
- Implemented an interactive hackathon profile form using **tRPC** and **React**, reducing user onboarding times by **30%** and improving completion rates for UCF's 2024 hackathon.
- Identified and resolved **4** high-priority bugs, cutting page load times by **75%** and improving the user experience and overall site performance.
- Engineered high-performance query resolver functions using **Go**, **SQL**, and **GraphQL**, powering the registration process for **500+** participants at UCF's 2023 hackathon.
- Collaborated with engineers on integration and unit testing, reducing post-deployment bugs by **30%** and maintaining **99%** uptime during high traffic periods.

PROJECTS

Story Sensei | *TypeScript, Svelte, SvelteKit, OpenRouter, SQL, PostgreSQL*
- Co-developed an AI-powered Japanese language learning app focused on engagement and user-driven progression.
- Implemented authentication flows with input validation, password hashing, and email verification, significantly improving the security of the app.
- Integrated **OpenAI API** with **Svelte** to generate multiple-choice quizzes based on daily AI-generated Japanese stories, gauging the users' reading comprehension.
- Cached AI-generated content in **PostgreSQL** for 24 hours, cutting latency by **80%** and minimizing API costs.

Handy Dollar | *TypeScript, React, TailwindCSS, Next.js, Supabase, Azure, Plaid, OpenAI*
- Secured **2nd place** out of **104 teams** in Google's challenge at ShellHacks for developing an AI-powered budgeting tool to help users understand their spending analytics.
- Integrated **Azure AI Vision** with **OpenAI API** to extract and process transaction data from paper receipts with **85%+** accuracy, reducing manual entry time.
- Developed an interactive financial analytics dashboard using **React** and the **Plaid API**, enabling users to track spending and budget more effectively.

Find My Professors | *TypeScript, React, TailwindCSS, Next.js, Chart.js, Go, GraphQL, SQL, PostgreSQL*
- Awarded **1st place** out of **8** teams at the KnightHacks Projects Showcase for creating a tool that helps college students find suitable professors.
- Built a dynamic front-end using **React** and **Chart.js** to visualize professor analytics and course insights, resulting in a **50%** increase in user engagement.
- Leveraged **Go**, **SQL**, and **GraphQL** to retrieve school, course, and professor data, improving query performance by **40%** and reducing professor search time by **45%**.

TECHNICAL SKILLS

Languages: Java, Python, C, C++, Go, PHP, HTML, CSS, JavaScript, TypeScript, SQL, GraphQL
Frameworks: TailwindCSS, Node.js, React, Svelte, Next.js, SvelteKit, Express.js, Flask, tRPC, Pandas, PyTorch
Tools: Git, Figma, Ubuntu, AWS, Azure, Supabase, Docker, Relational databases, NoSQL databases