Sheraj KC

U.S Citizen | Fairfax, VA | sherajkc@gmail.com | Linkedin.com/in/sheraj-kc | GitHub.com/kcsheraj| Personal Portfolio

Education

George Mason University Expected Graduation: May 2026
Bachelor of Science in Computer Science *Fairfax, VA*

- GPA 3.81/4.00
- Relevant courses: Data Structures and Algorithms, Object-Oriented Programming, Operating Systems, Full Stack Web Development, Databases

Experience

Software Engineering Intern May 2024 – Present
Mathtech Inc *Falls Church, VA*

- Developed a **time-tracking** web application using the **MERN** stack for hardware technicians at Mathtech Inc., featuring a stopwatch, total time calculations, note storage, archive page, and CRUD operations, improving time-tracking tasks for **8 technicians.**
- Integrated the time tracker with another developer's management application, enhancing technicians' efficiency by consolidating functionalities into a single website.
- Created a MERN **full-stack** application to mock the front panel of a crew station, **replicating all functionalities** of the original hardware, including buttons, knobs, and dials
- Utilized web sockets with **Socket.IO** to create a constant connection between **5** crew station clients allowing for continuous communication between clients and server.
- Created a web-based tool to manage and execute **bash scripts**, providing a dashboard for monitoring and troubleshooting script performance, used to test and verify crew station hardware.

Skills

Languages: Python, Java, C, JavaScript, SQL, HTML, CSS
Technologies: Node.js, MongoDB, Firebase
Frameworks: Express.js, Django
Libraries: React.js, Redux, Zustand
Tools: Git, Bash, JUnit Testing

Projects

Fitness Tracker | *React.js, Node.js, MongoDB, Firebase, React Redux, Raspberry Pi* MotionMatrix.us

- Developed a comprehensive fitness tracking web application with features such as an interactive calendar, personalized workout routines, record tracking, and a filterable workout library.
- Implemented secure user authentication with **JSON Web Tokens** (JWT) to restrict access to protected routes for authenticated users only.
- Integrated **Google authentication** and image upload functionalities using **Firebase** for seamless user experience and efficient data storage.
- Leveraged the **React Redux** library for effective state management for users.
- Self-hosted the application on a Raspberry Pi, exposing it to the public internet using **Cloudflare Tunnel**, ensuring secure and reliable access without port forwarding.
- Successfully hosted and managed the site for over **15 daily active users**.

AirDrop Network Emulation | *Java, JUnit* View Project

- Generated an ad-hoc wireless network emulation in Java, utilizing a custom **graph data structure** to simulate network behavior.
- Employed rigorous testing with **JUnit** to validate the custom graph data structure implementation, achieving a 98% success rate in black-box testing.
- Implemented **Ddijkstra's** and Prim's Algorithms to calculate shortest paths and minimum spanning trees, respectively.

Social Itinerary Planner | *React.js, Node.js, MongoDB, Firebase, Zustand, Git*

- **Lead a team of 3** in developing a collaborative itinerary planner with real-time updates using **Web Sockets**.
- Enabled users to upload photos, share itineraries, and interact through a **social feed**, enhancing engagement.
- Managing **Git** version control, including pull requests and versioning strategy to ensure smooth team collaboration.