

REHATBIR SINGH

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EDUCATION

University of Wisconsin-Madison

BS Computer Science & Data Science (Dean's List) *GPA: 4.0 / 4.0*

Madison, WI, USA

Sep 2024 - May 2028

Mayoor Private School

Indian Central Board of Secondary Education Science Stream *GPA: 3.8 / 4.0*

Abu Dhabi, United Arab Emirates

Apr 2020 - Mar 2024

EXPERIENCE

Flux

Co-founder & Lead Software Engineer

Madison, WI, USA

Feb 2025 - Present

- Launched an iOS app to connect student entrepreneurs on campus by complementary skills and interests
- Designed and implemented the app's frontend with SwiftUI, real-time matching, semantic recommendation algorithms, the document database and storage systems with Firebase
- Led product direction and technical architecture, growing to 100+ active users within a few weeks of release

Al Masaood LLC

Software Developer Intern

Abu Dhabi, United Arab Emirates

May 2025 - Aug 2025

- Built and launched a React/SPFx timesheet tracker for 30+ technicians, saving 1,500+ sheets weekly through SAP-integrated SharePoint
- Assisted development of a legal chatbot using FastAPI, React, and RAG, saving the legal team 8 hrs/wk
- Partnered with the insurance department on an app for vehicle inventory and insurance, handling data modeling and SharePoint API integration

Data Science for Sustainable Development @ UW-Madison

Student Developer

Madison, WI, USA

Sep 2024 - Dec 2024

- Developed a statistics dashboard for Red-CORAL, an open-source crime visualization tool for organized crime in Central America with over 1,200+ data points using React and Firebase
- Integrated Node.js modules like Leaflet for geospatial visualization and Lucide for custom icons. Attended biweekly workshops on technical skills and professional development

PROJECTS

FreeVoIP Rust, TypeScript, Tauri, React.js, Iroh

rehatsingh.cv/freevoip

Deployed a decentralized peer-to-peer video calling app with secure contact sharing, eliminating the need for central servers. Built cross-platform with Rust and React (via Tauri) and leveraged the Iroh framework for real-time, peer-to-peer network transport.

Path Tracing Renderer C, OpenGL, GLSL

github.com/MysteryCoder456/path_tracer_c

Developed a path tracing renderer, inspired by the book Physically Based Rendering. Leveraged OpenGL for rendering pipelines and applied advanced math concepts like geometry, vector mathematics, calculus for accurate, physically based light ray simulations of real-world objects.

Blitz Board Python, Flask, JavaScript, WebSockets, PostgreSQL, Redis

blitz.rehatsingh.cv

A real-time multiplayer typing game with 300+ games played. Used Redis to synchronize game lobbies across multiple load-balanced Flask servers for seamless scalability. Self-hosted using Nginx and Docker containers.

SKILLS

Programming: Python, Swift, JavaScript/TypeScript, C/C++, Rust, Java, Dart, Git (VCS)
Libraries: Django, Flask, SQLAlchemy, SwiftUI, React, Next.js, Flutter, OpenGL, Godot
Technologies: Docker, Nginx, PostgreSQL, MySQL, Linux
Others: Agile Methodologies (Scrum), Jira, Stakeholder Communication, Sprint Planning

AWARDS

Honorable Mention in MadData Hackathon

dotData @ UW-Madison

Recognized for building & presenting Wavelength, an app that analyzes Spotify libraries to connect students with similar music tastes using data science techniques and social discovery algorithms.

Feb 2025

Dean's List

University of Wisconsin-Madison

Recognized on the Dean's List at the University of Wisconsin-Madison for achieving a 4.0 GPA, signifying academic excellence.

Fall 2024, Spring 2025