

Rehatbir Singh

rsingh269@wisc.edu | +1 (608) 213-0016 | <https://rehatsingh.cv> | <https://github.com/MysteryCoder456>

EDUCATION

University of Wisconsin–Madison | Madison, WI

May 2028

Bachelor of Science: Computer Science & Data Science with Certificate in Economics, GPA: 4.0 / 4.0

Relevant Coursework: Programming II & III, Calculus II, Matrix & Linear Algebra, Data Science Modelling I & II

EXPERIENCE

Flux | Co-founder & Lead Software Engineer | Madison, WI

Feb 2025 – Present

- Addressed the problem of campus entrepreneurs struggling to find collaborators with complementary skillsets
- Validated that UW–Madison's entrepreneur community was iOS-dominant, then led the pivot from Flutter to SwiftUI to better serve users and accelerate development
- Built a semantic matching system using text embeddings to handle natural language representations after identifying that rigid skill tagging failed to capture how students actually describe themselves

AI Masaood LLC | Software Developer Intern | Abu Dhabi, United Arab Emirates

May 2025 – Aug 2025

- Built and deployed a React/SPFx timesheet tracker for 30+ technicians, saving 1,500+ sheets weekly through SAP-integrated SharePoint
- Developed a legal chatbot to proofread and draft contracts using Ollama and RAG, saving the legal team 8 hrs/wk
- Partnered with the insurance department on an app for vehicle inventory and insurance, streamlined data modeling and SharePoint API integration

PROJECTS

MindMerge (MadHacks) | Rust, Tauri, React.js, Iroh, Fish Audio, Gemini API

Nov 2025

<https://rehatsingh.cv/mindmerge>

- Built a real-time collaboration platform, designed around capturing ideas rapidly so remote teams don't lose context
- Designed a peer-to-peer sync system using the Gossip protocol, eliminating central server bottlenecks
- Reduced the friction of diagram creation by building a voice-to-SVG pipeline, letting collaborators capture ideas verbally

Path Tracing Renderer | C, OpenGL, GLSL

Dec 2024 – Feb 2025

https://github.com/MysteryCoder456/path_tracer_c

- Designed a composable material system in C to represent physically-based surface properties
- Implemented Monte Carlo path tracing with support for reflection, refraction, and emission
- Ported a recursive light transport algorithm to an iterative GLSL shader, working around its lack of recursion support

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

Sep 2023 – Dec 2023

<https://blitz.rehatsingh.cv>

- Built a real-time multiplayer typing game with live leaderboards, designed for competitive head-to-head play
- Scaled the backend to support simultaneous matches across multiple servers, using Redis to keep game state synchronized
- Containerized and self-hosted the system with Docker and Nginx on a Raspberry Pi

LEADERSHIP & INVOLVEMENT EXPERIENCE

Student Leadership Program | UW–Madison | Madison, WI

Sep 2025 – Present

Empower Committee

- Facilitate biweekly workshops on leadership, equity, identity, and social justice for UW–Madison students
- Collaborate with committee members to plan workshops that encourage dialogue, reflection, and inclusive leadership

Data Science for Sustainable Development | UW–Madison | Madison, WI

Sep 2024 – Dec 2024

Student Developer

- Built a statistics dashboard for the open-source Red-CORAL crime visualization project, analyzing 1,200+ data points using React and Firebase
- Designed a modular filtering system using React Reducers, enabling flexible data slicing and real-time visualization

SKILLS & INTERESTS

Frontend: JavaScript/TypeScript, React.js, Tailwind, Swift, SwiftUI

Fitness: Strength training, Pickleball

Backend: Python, Flask, Django, C, Rust, Axum, Node.js, Next.js

Other: Coffee brewing, playing guitar, journaling

Infrastructure: Docker, Nginx, Linux, PostgreSQL, MySQL, Firebase