Rajit Sareen

509-987-3674 | rajitsareen@gmail.com | LinkedIn | Personal Portfolio | GitHub | US Citizen

Technical Skills

Languages: Java, Python, C++, C
Frameworks & Tools: PyTorch, PostgreSQL, Docker, Git, RESTful APIs, CI/CD
AI/ML: Neural Networks, MCP Servers, Prompt Engineering, Retrieval Augmented Generation (RAG), AI Agents
Certifications: AWS Certified Cloud Practitioner

Education

University of Washington Seattle, WA
Bachelor of Science in Computer Science *June 2028*
GPA: 3.75

Coursework:
Data Structures and Algorithms, Deep Learning, Linear Algebra, Probability and Statistics, Software Design, Artificial Intelligence, Differential Equations, Computer Architecture

Experience

Software Engineering Intern Jun 2025 – Aug 2025
FlexTrade Systems *New York, NY*

- Shipped AI agent orchestration tooling with MCP server plugins, adopted across internal departments
- Supported 225+ institutional clients globally through internal tooling deployments
- Built and maintained order-routing and execution logic in a live multi-threaded C++ trading platform
- Fixed a production crash by tracing a null pointer dereference through GDB analysis
- Compared lock-free ring buffer vs. mutex-based queue throughput and tail latency on a distributed job runner, reducing average latency by 10x

Deep Learning Researcher Jan 2026 – Jun 2026
University of Washington *Seattle, WA*

- Tested 6 context optimization strategies, including RAG and summarization, across LongBench tasks
- Evaluated Llama-3.1-8B and Gemini-2.5-Pro on quality, latency, cost, and token efficiency
- Built a model that automatically picks the best strategy per query, beating fixed baselines

Undergraduate Research Developer Jun 2024 – Jan 2026
DAIS Lab, University of Washington *Seattle, WA*

- Trained and evaluated diffusion, flow-matching, and other generative model architectures on cryo-EM data
- Tracked hundreds of training runs in Weights & Biases, tuning hyperparameters based on results
- Debugged a preprocessing bug that discarded icosahedral proteins due to a 3D-to-2D tensor mismatch

Projects

Multithreaded File Search Engine | *C, Multithreading, HTTP*

- Built a scalable search engine with a custom linked list, hash table, and query processor in C
- Implemented a disk-based index to support fast lookups over large file sets
- Built a multithreaded HTTP server backed by a custom thread pool for concurrent requests
- Identified and patched XSS and directory traversal vulnerabilities in the server

Loom | *C++, TCP, Distributed Systems*

- Built a distributed job orchestrator in C++ with a hand-rolled thread pool and TCP coordinator
- Implemented heartbeat-based health checks to detect worker node failures in real time
- Designed automatic job rescheduling to recover in-progress work from a failed node
- Coordinated job dispatch and state tracking across a Raspberry Pi and PC over TCP