RISHABH AGARWAL

arishabh.2812@gmail.com | rishabh.world | linkedin.com/in/rishabh-cs

EDUCATION

University of Minnesota, Twin Cities — **Minneapolis, MN**
Master of Science, Computer Science, GPA: 4.00 — December 2025
Bachelor of Science, Computer Science, GPA: 3.91 — December 2024

RELEVANT EXPERIENCES

Seagate - University of Minnesota — Graduate Research Assistant (January 2025 - Present) — **Minneapolis, MN**

- Built a Python monitoring system for ML training pipelines, measuring **SSD vs. HDD energy variations** using **MLPerf** benchmarks
- Calculated ML energy consumption by tracking disk activity, analyzing ResNet-50 & CosmoFlow training (210W peak, 90W low)
- Analyzed storage I/O events by processing **blkparse** CSV data; employed detailed metrics to compare SSDs and HDDs, and uncovered that SSDs deliver 35× faster data access despite higher emissions (2.91 kg CO_2e/TB vs. 1.2 kg CO_2e/TB in HDD's)

University of Minnesota — Undergraduate Teaching Assistant (January 2024 - December 2024) — **Minneapolis, MN**

- Conducted 80+ hours of 1-on-1 help sessions, resolving technical issues related to **OpenGL and WebGL** implementation on Linux
- Organized 5 "Programming with TA" sessions, with an average attendance of 75 students, boosting project submission quality by 22%
- Graded **900+** programming assignments and quizzes within a **48-hour turnaround time**, maintaining a 90% accuracy rate in feedback

AI-CLIMATE Institute — Machine Learning Intern (January 2024 - August 2024) — **Minneapolis, MN**

- Developed a machine learning model that accurately **predicts crop yield trends** for 5,000+ local farmers, enabling them to adapt their agricultural practices to help **combat climate change** while maintaining profitability while improving **crop health trends dashboard**
- Designed a **Python-based devops pipeline** using scikit-learn and custom **feature selection**, processing 2.7 TB of agricultural data
- Implemented **privacy-preserving** techniques to handle **sensitive data**, ensuring GDPR compliance for **5,000+ data points in midwest**

SiteNotes App — Software Engineering Intern (June 2024 - August 2024) — **San Francisco, CA**

- Resolved a bug affecting **in-app camera functionality** for 37% of Android users using Charles proxy, restoring full app capabilities
- Conducted comprehensive testing using Android Studio, writing **500+ unit tests** that that identified and resolved **memory leaks** in image processing and network request timeouts, improving stability by reducing **crash rates from 2.3% to 0.8%**
- Collaborated with a cross-functional team of 8 developers to integrate **3 new features**, resulting in 63 new enterprising licensed users

Kfi Engineers — Software Engineering Intern (May 2023 - December 2023) — **St. Paul, MN**

- Developed a React-based **dashboard for real-time energy monitoring**, enabling 5 client companies to **reduce their annual energy consumption** by an average of 1.2 million kWh, translating to approximately $120,000 in annual cost savings per company
- Optimized SQL queries, reducing **response time** from 1.2 seconds to 300 milliseconds for a database with **1.3 million daily requests**
- Integrated **REST APIs**, expanding the application's functionality with real-time equipment health monitoring and **failure forecasting**

PROJECTS

UMN Course Notifier — NodeJS, React JS, MongoDB, Stripe API, Auth0 — **November 2024**

- Revolutionized course registration for over 50,000 UMN students by developing a **Chrome extension** that monitors seat availability for **high-demand courses,** addressing a critical pain point in the university's enrollment process and improving student satisfaction
- Engineered a robust backend using Node.js and MongoDB, capable of **processing 1.2 million course status checks** per hour with an average response time of **50ms**, reducing **manual refresh attempts by 98.7%** and server load by 60%
- Enhanced user security by integrating Auth0 with **multi-factor authentication and JWT tokens**, resulting in a **91.9% reduction in unauthorized access attempts** and ensuring **FERPA compliance** for sensitive student data protection with end-to-end encryption

Airpool (CalHacks 11.0) — Python, FetchAI, API, Github, ReactJS, HTML, Almanac — **October 2024**

- Disrupted traditional **high-performance computing models** by creating a **decentralized resource allocation system**, reducing computing costs by $150,000+ annually for a mid-sized institution while increasing overall compute utilization from 62% to 89% with Kubernetes
- Architected a docker multi-agent system supporting **157 active linux nodes,** demonstrating **90.99% uptime** over 30-day stress test period
- Improved real-time resource optimization, reducing job completion time from **47 minutes to 31 minutes** for complex computational tasks

LEADERSHIP EXPERIENCES

Google Inc. — Developer Student Groups lead (June 2023 - Present) — **Minneapolis, MN**

- Directed technical initiatives and guided peers as the Google Developer Student Club Lead, fostering a culture of learning and teamwork
- Organized 12 hands-on workshops on emerging technologies like TensorFlow and Flutter, attracting an average of 75 students per session

Code The Gap — Co-President (January 2024 - Present) — **Minneapolis, MN**

- Implemented coding boot camps for underserved institutions, bridging social disparities in terms of economic and gender inclusivity
- Organized 6 coding boot camps across 5 underserved schools, increasing female participation in tech from 22% to 41% over one year

University of Minnesota — Orientation Leader (March 2022 - September 2022) — **Minneapolis, MN**

- Delivered 10+ engaging presentations on university resources, leading to a 25% rise in first-year student utilization of career services
- Guided a unique group of 27-30 incoming freshmen through a 2-day campus orientations for 53 consecutive days with teamwork

SKILLS

Programming Languages: Python, JavaScript, Java, C++, SQL, Go
Web Technologies: React, Node.js, RESTful APIs, HTML5, CSS3
Data Science & ML: TensorFlow, PyTorch, scikit-learn, Pandas, NumPy
Tools: Git, GitHub, AWS, Linux, Azure, Docker, Kubernetes, MongoDB, PostgreSQL, Jenkins