

# AKAR KAUNG (He/Him/His)

kaung006@alumni.umn.edu | San Jose, CA | <https://akarhtutkaung.github.io/>

## EDUCATION

---

### M.Sc. in Computer Science, 2023

University of Minnesota, Twin Cities, MN

GPA: 3.78/4.00

Relevant Coursework: Intelligent Robotic Systems, Parallel Animation & Planning in Games, Computer Organization, Advanced Algorithms and Data Structures, Software Engineering II

### B.Sc. in Computer Science, 2021

University of Minnesota, Twin Cities, MN

GPA: 3.59/4.00

Relevant Coursework: Machine Architecture and Organization, Introduction to Operating Systems, Development of Secure Software Systems, Software Engineer I, Computer Networks

### AS. in Computer Science, 2019

Green River College, Auburn, WA

GPA: 3.40/4.00

## RESEARCH EXPERIENCES

---

### University of Minnesota - Twin Cities

May 2022 – May 2023

*Research Assistant (Prof. Mattia Fazzini's Lab)*

- Collaborated with PhD students to develop tools to streamline data preprocessing and analysis workflows for Natural Language Processing (NLP) models research, enhancing overall efficiency.
- Contributed to an automated project creation system to facilitate course-related assignments and improve reproducibility for Prof. Fazzini's course.
- Conducted bug pattern analysis to predict future software defects, applying data analysis techniques to enhance software quality assurance processes.

### Independent Research Projects

#### • Analysis of Cloth Simulation in Parallel Programming

Jan 2023 – May 2023

*Prof. Pen-Chung Yew*

Researched and implemented parallel programming techniques to optimize the computational efficiency of cloth simulations. Evaluated different approaches to improve performance and achieve smoother real-time rendering of complex physical interactions.

#### • Optimized and Efficient Path-Finding Algorithms

Sept 2022 – Dec 2022

*Professor Nikolaos Papanikolopoulos*

Conducted comparative analysis of pathfinding algorithms in simulated restaurant environments to identify optimal strategies for robotics navigation, aiding decision-making for operational improvements and customer experience enhancement.

#### • Rehabilitation for Elderlys Using Virtual Reality

Sept 2022 – Dec 2022

*Professor Victoria Interrante*

Developed an immersive virtual reality environment for the elderly to simulate familiar life experiences, enhancing engagement and supporting rehabilitation progress through memory stimulation and interactive movement.

## TEACHING EXPERIENCES

---

### University of Minnesota - Twin Cities

Jan 2022 – May 2023

*Graduate Instructor*

- Taught core software engineering topics, including Agile methodologies, Git version control, unit testing, and design patterns in C++, to junior and senior undergraduate students.
- Led individual and group troubleshooting sessions to address diverse software issues and bugs, fostering student confidence and technical proficiency.

- Created instructional materials and lab content for over 1,000 students, emphasizing practical application of theoretical concepts.
- Supervised 30+ teaching assistants over multiple semesters, coordinating grading, managing course logistics, and responding to student inquiries.

## University of Minnesota - Twin Cities

Sept 2021 – Jan 2022

### Teaching Assistant (Prof. Mattia Fazzini)

- Worked closely with Professor Mattia Fazzini to analyze and refine lab and assignment instructions, contributing to the enhancement of the learning experience
- Led lab discussion sessions for a class of 105 undergraduate students, facilitating their progress and ensuring the successful completion of assignments and projects.
- Conducted thorough evaluations of student performance through project assessments, offering constructive feedback to promote continuous improvement and a deeper understanding of course concepts.

## WORK EXPERIENCES

---

### Edirq Inc.

Jan 2025 – Present

#### Co-Founder & Software Engineer

- Co-designed a new social media platform centered on meaningful user connections rather than engagement farming, focusing on content relevance and trust.
- Developed the core feed and interaction logic by analyzing user behavior patterns and designing custom ranking algorithms to surface contextually relevant content.
- Explored and iterated on recommendation strategies (e.g., user similarity, content embeddings, interaction graphs) to balance personalization with content diversity.
- Built the backend architecture (AWS, Node.js, PostgreSQL) to support scalable data collection and real-time algorithm feedback loops for continuous improvement.
- Created the technical foundation for future research-driven features, including adaptive recommendation models, social graph analysis, and user intent prediction.

### Meta - Contractor

Mar 2025 – May 2025

#### Software QA Tester

- Validated performance, usability, and stability of Meta's AR/VR products by executing 500+ hands-on test cases across Oculus Quest 2, 3, 3S, Meta Ray-Bans, and unreleased prototypes, primarily targeting AI-driven features.
- Identified and documented 50+ high-impact bugs in software, AI behavior, and system performance through functional, exploratory, and usability testing, accelerating issue resolution and improving product quality.

### Outlier AI

Jan 2024 – Dec 2024

#### AI Prompt Engineer

- Designed and engineered prompt solutions to improve system performance and reliability, yielding an 80% approval rate for outputs flagged as high-quality responses.
- Analyzed prompt behavior and failure cases by reviewing peer submissions, identifying systemic weaknesses, and applying targeted refinements to improve reliability and robustness.

### Green River College

May 2018 – Jun 2019

#### International Student Ambassador

- Collaborated with cross-functional teams, including student organizations, administrative staff, and faculty members, to ensure comprehensive event planning and seamless coordination of logistics and resources.
- Acted as a liaison between international students and college administration, advocating for student needs and promoting inclusive campus initiatives to enhance the overall student experience.
- Provided guidance and support to international students, facilitating their integration into campus life and promoting cross-cultural understanding and friendship among the student body.

## HONORS, AWARDS, AND ACHIEVEMENTS

---

1. **Dean's List of Scholars, College of Science and Engineering, University of Minnesota, January 2020 – May 2021.** Awarded to students whose grade point average is 3.66 or above and who completed 12 hours of graded coursework per semester.

2. **Campus Life Leadership Award, Campus Life, Green River College, June 2019.** Recognized for outstanding leadership and contributions as an International Student Ambassador, fostering community engagement and supporting fellow students.
3. **Honorable Mention for Best Decoration Event, The Current, Green River College, June 2019.** Recognized for creating a vibrant and culturally authentic atmosphere, featuring traditional lanterns, calligraphy, and symbolic decorations that captured the essence of the Lunar New Year celebration.
4. **Student Representative of Math Division Tenure Committee, Green River College, January 2019 - June 2019.** Served as one of the few selected student representatives on the Math Division Tenure Committee, contributing to faculty tenure evaluations and decision-making.
5. **Student Representative of IT Budget Committee, Green River College, May 2018 - June 2019.** Served as the sole student representative on the IT Budget Committee, providing input on technology funding decisions and advocating for student needs in IT resource allocation.
6. **Awarded to participate in the Council of Unions and Student Programs - Student Leadership Conference, Green River College, May 2018.** Awarded the opportunity as a selected student from Green River College to participate in the Council of Unions and Student Programs - Student Leadership Conference, representing the college in leadership development and advocacy discussions.
7. **Certificate of Recognition for Thesis Defense, American Mathematical Association of Two-Year Colleges, Green River College, June 2018.** Recognized for successfully presenting a thesis defense in the 2018 AMATYC Student Research League, an exclusive competition for selected participants chosen by the Green River College Mathematics Division.
8. **Recognition of Outstanding Achievement in Mathematics, Green River College, June 2018.** Awarded MAA membership by the Green River Mathematics Division for exceptional academic performance and excellence in mathematics.
9. **Best Design Award ChatBot Hackathon, Myanmar, November 2016.** Awarded best design prize for developing a chatbot with optimized UI/UX and multilingual support, enhancing user engagement and efficiency.

## PROJECTS

---

### Space-Warfare ([URL](#))

*Tech Stack: UE5, C++, Blender*

- Created a smart spaceship simulation in UE5, predicting and engaging enemy spaceships while implementing evasion tactics.
- Designed a self-destruct feature for the spaceship, triggered when health drops below a threshold.
- Integrated advanced evasion tactics into the spaceship's AI algorithms, enabling it to successfully dodge and outmaneuver enemy spaceships when detected and targeted.

### Back2Town ([URL](#))

*Tech Stack: Unity, C#, Blender*

- Developed a 3D character simulation within Unity, incorporating advanced NPC movement using the Dijkstra pathfinding algorithm.
- Designed and implemented a sophisticated collision avoidance system to enhance gameplay realism and character interactions within the virtual environment.
- Utilized Unity's tools to bring detailed, realistic environments to life, improving both visual appeal and functionality.

### Autonomous Drone Transportation Simulation ([URL](#))

*Tech Stack: C++, HTML, CSS, JavaScript, CSS, UML, Agile*

- Developed a simulation for autonomous passenger drones, including algorithmic control of drone flight and passenger transport functionality.
- Produced detailed UML diagrams and comprehensive documentation, supporting code optimization and system architecture clarity.
- Refined existing codebase using Factory, Decorator, and Strategy design patterns to improve code organization and structure.

### Core NLP XML To Brat Ann Conversion ([URL](#))

*Tech Stack: Python, XML, ANN*

- Developed a Python script to convert Core NLP XML files to Brat Ann format, handling Part-of-Speech (POS) tagging and dependency relations based on Enhanced++ Dependencies.
- Implemented functions for parsing XML structures, extracting token information, and generating annotation and configuration files, ensuring compatibility with Brat visualization tools.
- Utilized XML parsing techniques in Python's ElementTree library to automate the conversion process, improving efficiency and reducing manual annotation work.