Marvin Uwalaka

(780)-394-8290 | **mcu@ualberta.ca** | [Personal Portfolio](#) | [LinkedIn](#)

EDUCATION

University of Alberta
July 2027
Bachelor of Science, Major in Computing Science
Edmonton, AB
- **Relevant Coursework:** Algorithms I, Machine Learning I, Software Engineering, Database Management, Reinforcement Learning, Linear Algebra I, Applied Statistics II, Computer Architecture I
- **Awards**: Maple Leaf Excellence Scholarship, Dean Mortensen Student Union Award, Canada Service Corps - Certificate of Recognition

EXPERIENCE

Data Science Research Intern
May 2025 – Present
Rehabilitation Robotics Lab
Edmonton, AB
- Processed large-scale biomechanics and motion-sensor datasets using MATLAB, enabling clear analysis and visualization that supported research insights.
- Contributed to research involving XR technologies, digital health, and intelligent rehabilitation systems, helping advance innovative solutions for patient rehabilitation
- Developed a predictive model using sensor-derived features, achieving **85%** accuracy in forecasting rehabilitation outcomes and providing actionable insights for treatment planning

Full-Stack Developer
May 2025 – Present
UNIYE
Edmonton, AB
- Implemented interactive social features (likes, comments, upvotes) supporting **500+** users, enabling real-time engagement tracking to increase user interaction and retention, and learning to manage concurrent updates and real-time data flow
- Optimized PostgreSQL queries and schema design, this enhanced data retrieval efficiency and overall app performance. reducing average response times by **40%**
- Built scalable backend services using Node.js and PostgreSQL for authentication, user profiles, content posting, and access control, ensuring secure login, data storage, and structured access to user-generated content
- Designed personalized "For You" feeds using user interaction signals, increasing content engagement by **30%**

Full-Stack Developer
March 2023 – August 2023
Sencelosia
Edmonton, AB
- Generated **$4,000** in revenue and attracted **2,000** site visits by promoting and managing the platform, demonstrating skills in digital marketing, analytics, and audience engagement
- Implemented user submission and event listing features using Node.js, gaining hands-on experience with server-side programming, database interaction, and API integration
- Developed a platform for art, food, and nature experiences, collaborating with a team to connect artists and the community, strengthening teamwork, project coordination, and UX design

PROJECTS

Goal Seeker [Github](#)
October 2025 – present
- Implemented reinforcement learning algorithms to demonstrate off-policy and on-policy learning behaviors, enabling comparison of learning strategies and deepening understanding of RL principles and algorithm design
- Modeled an agent navigating a grid-based maze to reach a target goal state and developed an interactive RL visualizer and simulator, allowing real-time observation of agent decisions and improving simulation, debugging, and visualization skills
- Designed real-time tuning of learning rate, discount factor, and exploration rate, allowing dynamic experimentation and analysis of convergence and exploration–exploitation trade-offs

Personal Website [Github](#)
January 2026
- Launched a personal portfolio website using React and Tailwind CSS, deployed via GitHub Pages, showcasing Data Science and software engineering projects
- Featured a combination of technical work, academic projects, and personal interests

Apollo Event Lottery [Github](#)
September 2025 – December 2025
- Developed an Android application enabling fair event registration using a lottery-based waiting list system
- Supported event creation, QR code check-in, and role-based access for organizers and participants
- Designed Firestore schemas to manage **100+** simulated users and events with real-time enrollment updates, building my expertise in scalable database design and real-time data handling
- Collaborated in a 4-person agile team using GitHub, UML diagrams, and sprint planning, strengthening my teamwork, communication, and agile project management skills while delivering iterative prototypes

Balance Assessment [Github](#)
May 2025 – August 2025
- Collected synchronized balance data from **25** adults across multiple trials and conditions, ensuring high-quality measurements for postural stability analysis
- Assessed agreement between center of mass (COM) and center of pressure (COP) metrics using Pearson correlations and Bland–Altman tests to validate measurement consistency
- Evaluated Kinetisense as a portable alternative for postural stability assessment, exploring its practicality for clinical and research applications

SKILLS

Programming: C, Java, Python, JavaScript, SQL, MATLAB, Kotlin, HTML, CSS
Tools & Platforms: Git, GitHub, Postman, Android Studio, PyTorch, scikit-learn, NumPy, Pandas
Web & Backend: React.js, Django, Node.js, REST APIs
Databases: PostgreSQL, SQLite, MongoDB, Firebase Firestore
Spoken Languages: English, Yoruba