Marvin Uwalaka

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EDUCATION

University of Alberta **Expected 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 – August 2025**

Rehabilitation Robotics Lab *Edmonton, AB*

- Processed large-scale biomechanics and motion-sensor datasets using MATLAB for analysis and visualization.
- Assisted in structured data collection for **25** participants, ensuring consistency and reliability across trials.
- Contributed to research involving XR technologies, digital health, and intelligent rehabilitation systems.
- Developed a predictive model achieving **85%** accuracy in forecasting rehabilitation outcomes using sensor-derived features.

Full-Stack Developer **March 2023 – August 2023**

Sencelosia *Edmonton, AB*

- Generated $4,000 in revenue and attracted 2,000 site visits, showcasing substantial engagement and impact.
- Developed a platform for art, food, and nature experiences, connecting artists and the community.
- Implemented backend features for user submissions and event listings.

Full-Stack Developer **May 2025 – Present**

UNIYE Platform (Student-Led Project) *Edmonton, AB*

- Implemented interactive social features (likes, comments, upvotes) supporting **500+** users with real-time engagement tracking.
- Designed personalized "For You" feeds using user interaction signals, increasing content engagement by **30%**.
- Optimized PostgreSQL queries and schema design, reducing average response times by **40%**.
- Built scalable backend services using Node.js and PostgreSQL for authentication, data storage, and access control.

PROJECTS

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, events, and real-time enrollment updates.
- Collaborated in a 4-person agile team using GitHub, UML diagrams, and sprint planning to deliver iterative prototypes.

Balance Assessment Github *May 2025 – August 2025*

- Collected synchronized balance data from **25** adults across multiple trials and conditions (eyes open/closed).
- Assessed agreement between COM and COP metrics using Pearson correlations and Bland–Altman test.
- Evaluated Kinetisense as a portable alternative for postural stability assessment.
- Conducted a validity and reliability study comparing Kinetisense motion capture with ForceDeck force plates in static balance tasks.

Goal Seeker Github *October 2025 – present*

- Implemented Q-Learning and SARSA algorithms to demonstrate off-policy and on-policy learning behaviors.
- Modelled an agent navigating a grid-based maze environment to reach a target goal state.
- Developed an interactive reinforcement learning visualizer and simulator.
- Designed real-time parameter tuning for learning rate, discount factor, and exploration rate, enabling dynamic observation 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 to give a well-rounded view of experience and approach to problem-solving.

SKILLS

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