Ally MacLeod

Waterloo, ON | 905-213-7309 | <u>aemacleo@uwaterloo.ca</u> | <u>LinkedIn</u> | <u>Portfolio</u>

EDUCATION

University of Waterloo   **Waterloo, ON**
BASc, Biomedical Engineering - President's Scholarship of Distinction   *Graduation Date: May 2027*

WORK EXPERIENCE

Christie Digital   **Waterloo, ON**
Software Engineering Co-op   *Jan 2025 - Apr 2025*
- Developed an Android app in **Kotlin** to streamline calibration by allowing users to use their phone camera for high-performance projection systems, reducing calibration time by 30% with **GPU**-accelerated image processing.
- Designed solutions for distributed systems and embedded devices, optimizing networking functionality.
- Built proficiency in **C++** and **Node.js** within a 3D problem-solving environment involving cameras, vision systems, and light projection.

Advanced Electrophoresis Soultions Ltd.   **Cambridge, ON**
Software Developer Intern   *Start Date - Finish Date*
- Led the **front-end** implementation of icIEF software, ensuring seamless user experience and intuitive interface Contributed to the development of device drivers, feature patches, and back-end modifications, enhancing software functionality.
- Used **C++** extensively for back-end development in conjunction with **Oracle** and **GUI** libraries, managing code versions with **Git**.
- Engaged in the design, prototyping, testing, documentation, and analysis of software modules and features, resulting in a **15% improvement** in product development time.

Develop for Good   **Remote**
Software Developer   *Nov 2022 - Aug 2023*
- Developed a web page with **React.js** and integrated it with existing **SQL** plus databases to automate emails triggered by donations and new project suggestions.
- This saves at least 5 minutes each time a new donation is received. Implemented existing **payment API** to allow for secure user donations and eliminating the need for third party payment methods.
- Helped create a ML software using **Python** and **HTML** to generate time-series predictions for plant ripeness based on phenology research, resulting in accurate predictions for over 100 species across the world.

PROJECT EXPERIENCE

<u>Tenuto - Music Therapy App</u>

- Developed a cross-platform app using **React Native** to provide personalized music recommendations based on users' mood and real-time heart rate data from Fitbit.
- Built the backend using **Python** and **JavaScript**, integrating the Spotify and Fitbit **APIs** to deliver customized song suggestions, implementing sentiment analysis and real-time data management.
- Collaborated with a team to design, develop, and pitch the project at Hack the North, with a focus on improving mental health through personalized music therapy.

<u>MRGOOSE - Tokenized Reward App</u>

- **Won two bounties** at the EthDenver Hackathon with a token project powered by Waterloo Blockchain, creating a tokenized experience that rewards event participation and grants exclusive access to select club merchandise.
- Users can transfer, mint, and burn this token for rewards. This fosters community building by incentivizing collaboration, community involvement and knowledge sharing.
- Crafted an innovative application architecture utilizing **Node.js** alongside **TypeScript** and **Kotlin**; enhanced responsiveness by 30% while ensuring compatibility with diverse platforms through the effective use of **Tailwind** styling framework.

SKILLS

Languages: C++, JavaScript, Python, Kotlin, SQL, HTML/CSS

Technologies: Git, React.js, React Native, Node.js, SolidWorks, PyTorch, Oracle, GUI frameworks, Docker