

Alexandra MacLeod

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SKILLS

Languages: C++, JavaScript, Python, Swift, MATLAB, SQL, HTML, TypeScript, Kotlin

Technologies: Microsoft Office, Git, React.js, SolidWorks, Tailwind CSS, PHP, NLP, Pytorch, Oracle, GUI

WORK EXPERIENCE

Junior Software Developer

May 2024 – Aug 2024

Advanced Electrophoresis Solutions Ltd.

Cambridge, ON

- 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.
- Utilized **C++, Python, Oracle Database, GUI** libraries, and **Git** for full stack development.
- Engaged in the design, prototyping, testing, documentation, and analysis of software modules and features, aligning with project objectives and timelines, resulting in a **15% improvement** in product development time.

Events Associate and Executive Member

Oct 2023 – Present

Waterloo Blockchain

Waterloo, ON

- Organized technical workshops, social mixers and research discussions with Blockchain companies and experts.
- Spearheaded planning and active participation in **hackathons** across North America, contributing to the growth and engagement of the Blockchain community, developing innovative projects, and enhancing **programming** skills.
- Established and maintained valuable sponsorships and partnerships with industry leaders and communities, raising over **\$100,000** for our association, hackathons, and events.

Software Developer

Nov 2022 – Sept 2023

Develop for Good

Remote

- Developed a web page with **React.js** and integrated it with existing **SQL** 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.

PROJECTS

HotelEcho

- A mobile hotel booking solution that compares the best hotel prices and ratings in a geographical area.
- Utilized **HTML, PHP, React** and **JavaScript** for **full-stack** development, implementing dynamic components and a new landing page, resulting in a streamlined customer experience and efficient hotel booking.
- Resolved over **40 unique bugs** using end-to-end testing, improving overall code quality while building and maintaining it.

Eco-City

- Developed an AI-driven Sustainable City Modeling project, attaining finalist status in the AI EarthHack Hackathon. Employed **Python, Pytorch, and Docker** for NLP software, and **JavaScript** for webpage functionality.
- Created and trained a ML model to generate a 3D representation of an optimally sustainable city, considering user-provided parameters. Model utilized GIS software and performed statistical analysis on various datasets such as population and climate.
- This innovative tool enhances city planning accuracy and efficiency, saving users hours in research, calculation, and modeling efforts.

Mr. Goose

- **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 Waterloo Blockchain merchandise.
- Users can transfer, mint, and burn this token for rewards. This fosters community building by incentivizing collaboration, community involvement and knowledge sharing. This was built using mainly **Node.js, TypeScript, Kotlin and Tailwind**.

EDUCATION

University of Waterloo

2023-2028

BASc, Biomedical Engineering - President's Scholarship of Distinction Recipient

Waterloo, ON

