

# Alex Moica

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## SUMMARY

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Software engineering graduate with 2 years of professional experience and a solid foundation in popular programming languages, web technologies, databases, and frameworks. Developed creative solutions to real-world problems, such as building highly reliable legal software to improve the accessibility of the justice system, 4D pathfinding for lunar rovers, wireless power transmission to sensors embedded in bridges, and a MERN (MongoDB, Express.js, React, Node.js) course for 100+ high school students.

## EDUCATION

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### **Bachelor of Engineering (Software Engineering)**

McMaster University | 2017 - 2023

## EXPERIENCE

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### **Development Lead**

SGAC | June 2023 - October 2023

- Led the development of pathfinding algorithms for autonomous lunar rovers, with a focus on demonstrating the efficiency and collision avoidance benefits of 4D LIDAR in rover swarms.

### **Software Developer Co-op**

Clio | January 2022 - August 2022

- Developed Clio's Outlook add-on following SCRUM methodology with a team of 4 developers, enabling clients to seamlessly file millions of emails to Clio's management platform.
- Designed and implemented an endpoint feature for selective re-filing of individual emails, enhancing user control and addressing a critical user concern.
- Investigated, identified, and resolved the top 20 most prevalent bugs reported for the Clio Outlook add-on, leading to enhanced performance and an improved user experience.

### **Full Stack Course Developer**

CreationCamp | September 2021 - April 2022

- Developed and taught a 4-month long full stack web development course for a class of high school students, covering HTML, CSS, JavaScript, MongoDB, Express, React, and Node.js.
- Designed, developed, and taught web development workshops to 100+ high school students.

## Cloud Software Developer Intern

SOTI | May 2021 - August 2021

- Migrated the backend framework for the Cloud Management System solution to .NET, resolving dependencies, addressing library issues, and writing full test coverage for 84 different projects.
- Implemented application-side caching, reducing SQL server calls by over 90% per minute.

## President

McMaster Engineering Society | March 2020 - March 2021

- Led a 28-person team in managing a \$750,000 budget to enhance student education, wellness, advocacy, events, and culture for over 5,500 engineering students.

## PUBLICATIONS

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Oussema Jouni, Alex Moica, Gavin Furtado, Eshana Mariam John, Varsha Santhosh, Daniel Asante, KangSan Kim, and Solomon Appekey. (2023) [4D LIDAR and Sensor Fusion for Autonomous Rover Missions](#). 74th International Astronautical Congress

## PROJECTS

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**Utrition (2023):** Utrition helps users track their progress towards their health goals. Users can upload a picture, speak, or type out their food in natural language, and Utrition provides all the nutritional data of the meal and saves it in the user's profile. The profile contains statistics and data visualizations to assist users in tracking their nutrition goals. **Stack:** Python, Flask, JavaScript, React, AJAX, Tensorflow, Git

**NooTab (2023):** A minimalist new-tab extension for Firefox and Chrome that offers a customizable layout and seamless access to search, calendar scheduling, and note-taking. **Stack:** HTML/CSS, JavaScript, Git

**Questly (2022):** Web application for middle school teachers to deliver computer science education. It provides an online classroom management system, grade-specific modules, assessments, walkthroughs, progress tracking, and grade reporting. **Stack:** Python, Django, PostgreSQL, HTML/CSS, JavaScript, Git

**Ebook Genesis (2021):** Python bot that finds and downloads ebooks from IRC channels using existing repositories and Direct Client-to-Client sub-protocol. One of the only open-source IRC ebook bots. **Stack:** Python, Bash, Git

## OTHER

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**Technical Skills:** Python, Ruby, Java, JavaScript, HTML, CSS, React, Vue.js, Node.js, Django, Ruby on Rails, SQL, PostgreSQL, MySQL, MongoDB, Docker, Linux (Ubuntu/Debian), REST API, Git, GitHub Actions, CI/CD, PyTest, Jest, RSpec, Jira, ROS2

**Languages:** English (Native), Romanian (Fluent), French (Limited Working Proficiency)