AADI CHAUHAN

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Education

University of Calgary — Calgary, Alberta

B.Sc. in Software Engineering — *Sep 2022 – May 2027*

Minor Degree in Biomedical Engineering — *Sep 2024 – May 2027*

Relevant coursework: Data Structure & Algorithms, Networked Systems, Embedded Software and Hardware Systems, Applied Operating Systems, Discrete Mathematics, Object Oriented Programming, Full Stack Web Development, Fundamentals of Electrical Circuits and Machines, Software Architecture, Machine Learning, Principles of Software Development

Looking for a 12-16 month internship as part of an internship term.

Skills

Languages: C/C++, C#, Python, RISC-V ASL, Java, JavaScript, SQL, HTML, CSS, Matlab

Technologies: Git, Microcontrollers, Single Board Computers, React.js, MySQL, AWS Cloud Services, OpenCV, TensorFlow, Postman, Bash, Flask, React, QT

Involvement

Vice President of Software Engineering

Augmented Reality for Medicine — *Sep 2023 – Present*

- Lead a team of software engineers in developing augmented reality applications. This includes overseeing project planning, design, and implementation phases to ensure successful completion.
- Manage version control and code review processes to maintain high-quality code standards.
- Write and read detailed and clear documentation to ensure all projects are reproducible.

Controls Team Software Member

Schulich Space Rover Team — *Sep 2024 – January 2025*

- Developed an inverse kinematics math library in C++, enabling precise control and positioning of a multi-degree-of-freedom robotic arm for complex tasks.
- Programmed firmware to interface with controllers, motors, and sensors, ensuring seamless communication and efficient operation of the robotic arm.
- Optimized communication protocols between the robotic arm and the control system, reducing latency and improving responsiveness.

Projects

Hand Gesture Recognition System for Augmented Reality |

- Leveraged Python libraries such as OpenCV, Mediapipe, and Tensorflow to create a computer vision hand-tracking model capable of recognizing gestures such as zoom, point, pinch, and more.
- Used transmission control protocol to send values to a separate Unity program utilized for rendering and visualization.
- Collected and trained data using a batched gradient descent machine learning training method for the project to recognize specific custom gestures created directly for augmented reality.

Theatre and Movie Management System |

- Designed and implemented a Theatre Management System using object-oriented programming principles like inheritance and polymorphism to streamline features such as seat allocation, ticket purchasing, and user management.
- Developed and connected a custom-designed MySQL database to efficiently manage transactional data, seat availability, and user records, ensuring data integrity and scalability.
- Applied software architecture techniques, including creating UML diagrams and use case diagrams, to model system requirements and ensure a modular and maintainable design.