Caden Chan

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Highlights of Qualifications

- Hands-on ECAD and MCAD experience using KiCad, Altium Designer, Autodesk Inventor and Fusion360
- Proficient in programming in Python, C and C++, with working knowledge of Javascript, HTML and CSS.
- Knowledgeable of programming frameworks Django, Flutter, Flask
- Strong collaboration skills, with the ability to express thoughts clearly, actively listen to others and collectively discover solutions
- Committed to continuously acquiring new knowledge and developing myself both professionally and personally
- Empathetic, resilient, self-aware, and motivated individual

Education

McMaster University Sept. 2023 - June 2028
Bachelor of Engineering in Electrical and Biomedical Engineering *Hamilton, ON*

Projects

AutoChessboard | *Personal Project* May. 2024 - Sept. 2024
Relevant technologies: KiCad, Autodesk Inventor, ESP32, Python, Arduino

- Worked closely in a team of 2 to design an automated system of ESP32-controlled dc motor cars that magnetically move chess pieces from the underside of the board.
- Designed and tested several two layer PCBs using KiCad to allow interfacing between the ESP32, a matrix of hall effect sensors, rows of PNP transistors and several other electrical components, used to detect the position of pieces on the chessboard.
- Developing, simulating and testing a dynamic multi-agent pathfinding algorithm to inform the movement of the cars while avoiding collisions.

Youtube Academy | *Google Developer Student Clubs Hackathon at McMaster University* Feb. 2024
Relevant technologies: Flask, Flutter, Python, Youtube API, GeminiAI

- Led development of a web platform for curating informational Youtube content
- Advocated for accessibility in education in a team of 4, showcasing our platform at the GDSC McMasterU Solution Challenge Hackathon

Sumobot | *Sumobot Competition at McMaster University* Oct. 2023 - Jan. 2024
Relevant technologies: Arduino, Autodesk Inventor, 3D Printing

- Prototyped and designed an autonomous sumo robot in a team of 4 using Arduino and electronic sensors, to compete at McMaster's Beginner Sumobot Competition.

Experience

Low Voltage Electronics Team Member | *MAC Formula Electric* Sept. 2024 - Present
Relevant technologies: Altium Designer, Microsoft Visio *Hamilton, ON*

- Designing a CAN HAT for a Raspberry Pi using Altium Designer to enable CAN bus communication capabilities with the rest of the vehicle's electrical system.
- Developing schematics and block diagrams to sustain documentation of the vehicle's electrical architecture.
- Collaborating with team leads to facilitate the manufacturing, testing and troubleshooting of LV and HV printed circuit boards (PCBs), working towards total integration of several electrical subsystems.
- Supporting the manufacturing team in various tasks, such as preparing carbon fiber panels for resin infusion and sanding body shell molds for the vehicle.

Assistant Teacher | *Spirit of Math Schools* Sept. 2019 - June 2023
Transferable skills: Leadership, communication, problem-solving *Markham, ON*

- Engaged with teachers to develop strategies that encourage a friendly learning environment and stimulate a desire for learning, coordinating classes of 20-30 students in Grades 3-11.