Andy Li

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EDUCATION

University of Toronto **Toronto, ON, Canada**
Bachelor of Applied Science, Electrical Engineering **September 2023 – May 2028**

- **Intended Minor:** Artificial Intelligence Engineering
- **Courses:** Calculus 1-3, Computer Fundamentals (C), Programming Fundamentals (C++), Digital Systems (Verilog), Introductory Electronics, Advanced Engineering Mathematics, Electrical Fundamentals, Computer Organization (Assembly), Signals and Systems, Hardware Design and Communication, Circuit Analysis, Linear Algebra

Skills: C, C++, Python, HTML, CSS, JavaScript, Assembly, MATLAB, AutoCAD, Microsoft Excel, Verilog, Altium

EXPERIENCE

The Innostation Foundation| Software Developer **July 2024 – September 2024**

- Collaborated in a team of 3 in developing a full-stack web-app using React, Node.js, and MySQL
- Created and managed relational databases and integrated back end with front end software to provide a functioning and dynamic platform
- Developed and maintained a new organization website with HTML, JavaScript, and CSS, increasing downloads by 20% every week

University of Toronto Supermileage | Electrical Design Team Member **January 2025 – Present**

- Developed a speedometer in a team of 4 for real-time vehicle performance monitoring
- Designed, tested, and debugged software and circuits using Arduino and electrical testing equipment
- Designed PCB layouts of prototype design using Altium and soldered components onto PCBs

UofT Engineering Strategies and Practices Course I & II| Project Manager **September 2023 – May 2024**

- Collaborated in teams of 5 and 7 to design an improved navigation system and garage entrance, facilitating data entry in Excel, research, and financial reports to improve operation efficiency and accuracy
- Produced and utilized Gantt charts and status reports for consistent updates with head engineers and clients
- Managed the design process, maintaining steady progress with scheduling and generated over 100 solutions with technical reports highlighting 3 final designs for each project
- Developed functional prototypes and graphics for reports in AutoCAD and Photoshop

PROJECTS

FPGA Fruit Shooting Game **September 2024 – December 2024**

- Designed and developed an FPGA-based shooting game on the DE1-SoC board using Verilog, featuring real-time graphics and user interaction
- Integrated PS/2 mouse and keyboard controls and VGA adapter for seamless player control and graphics display
- Generated RAM files using Quartus to store and retrieve game graphics data, enabling efficient object rendering
- Implemented finite state machines, counters, and modules for game state transition, physics, and mechanics
- Verified functionality through simulations and debugging in Quartus Prime and ModelSim

GenAI Genesis Hackathon | Audio-Based AI Powered Navigation Device **March 2024**

- Developed a head-worn AI navigation device in a team of 3, integrating Raspberry Pi, Google Gemini, OpenCV, ultrasonic sensors, and cameras to assist visually impaired users, winning Best AI in Accessibility award
- Implemented real-time object detection and auditory feedback, translating environmental data into distance-based sound cues and AI-generated descriptions
- Optimized system efficiency by utilizing multithreading to handle sensor input, AI inference, and audio processing in parallel, ensuring low-latency responses

Reversi Game and Bot System **January 2024 - May 2024**

- Developed a Reversi AI game and bot in C, enabling players to compete against other players and an autonomous computer opponent
- Implemented core game mechanics, including move legality checks, available move detection, and tile placement using custom helper functions to ensure smooth gameplay
- Implemented minimax decision algorithm to compute optimal moves enhancing the bot's strategic capabilities