# 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++, Java, 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 Java, HTML, JavaScript, CSS, 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 Aerospace Team | Data Processing Team Member** **September 2023 – January 2025**

- Collaborated with a team to design and implement a sensor model for satellite-based agricultural mapping
- Conducted in-depth research on scanning systems to identify optimal sensor configurations for satellite cameras
- Enhanced accuracy and efficiency of agricultural mapping processes by contributing to a robust sensor model

**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