

# ETHAN XAVIER GAN

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## Summary of Qualifications

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- Microsoft Azure-certified aspiring engineer with experience designing AI-driven solutions for financial fraud prevention
- Full-stack web developer building modular, responsive React apps and deploying them using GitHub, Netlify, and Markdown workflows.

## Experience

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### WE Accelerate - Microsoft Division

January 2025 – April 2025

*Project Team Member*

*Waterloo, ON*

- Independently designed the full user experience and interface for a conceptual AI-powered fraud prevention tool for seniors, emphasizing clarity and minimal prompting.
- Created UX flow diagrams and interactive wireframes to simulate interactions with tools such as Azure AI Foundry, Azure Search, and DeepSpeech.
- Collaborated bi-weekly with a 5-person team via Microsoft Teams to align product scope, define user needs, and present a functional design proposal.

### Principal Academy

February 2023 – May 2025

*Science and Technology Education Instructor*

*Vaughan, ON*

- Designed and taught a game-oriented 1-week object-oriented curriculum for Python, Java and Scratch for capacities of 20+ students of grades 4-12 for the online Summer Coding Camp.
- Applied Adobe Creative Cloud to optimize UX, branding, logo design and multimedia content creation on [www.principalacademy.ca](http://www.principalacademy.ca) and promotional campaigns of up to 10% conversion.

### Thornhill Secondary School Computer Club

September 2023 – June 2024

*Coding Contest Manager*

*Thornhill, ON*

- Led a team of students to launch coding contests on graph theory and other concepts for 50+ participants.
- Built automated input/output test suites to streamline problem submission evaluation to save 40+ hours of judging.

## Projects

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### Portfolio Website 🌐 | *React, JavaScript, React Router, CSS, HTML, Markdown, Netlify*

- Built a responsive, modular React website featuring dynamic project showcases rendered from Markdown and organized using component-based architecture.
- Achieved Lighthouse scores of 92 (Performance), 95 (Accessibility), and 100 (Best Practices) through code splitting and semantic HTML.

### TankRunners: Procedural Tank Game | *Java, JFrame, JPanel, OOP*

- Developed a procedurally generated dungeon adventure game featuring adaptive AI enemies and dynamic map generation, enabling rigorous pathfinding algorithm testing.
- Implemented an AI-driven enemy system utilizing weighted randomness for decision-making and A\* pathfinding for optimized navigation, reducing resource load and enhancing gameplay fluidity.

### WalkAlong Hovercraft | *Arduino C, SketchUp, TinkerCAD, 3D Printing & Design, Servo/Motors*

- Built a functional 1/32 scale hovercraft to demonstrate airflow and Bernoulli's principle.
- Used Arduino C to communicate rudder movements and motor intensity through a remote receiver, SketchUp for drafting 3D designs, and TinkerCAD for 3D printing.

### E-Waste Everywhere Website | *CSS, HTML, GitHub Pages*

- Built a responsive static website using GitHub Pages to raise awareness about e-waste and promote sustainable practices.

## Skills

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**Languages:** Python, Java, JavaScript, C++, Arduino C, SQL

**Web Development:** React.js, HTML, CSS, Markdown, GitHub Pages, Netlify

**Tools & Platforms:** Git, GitHub, Bash, VS Code, Figma, Anaconda, Azure

**Certifications:** Microsoft Azure AI Fundamentals, Microsoft Azure Fundamentals, WHMIS 2015.

**Relevant Coursework:** Digital Computation (*C++*), Visualization (*SolidWorks/CAD*), Elementary Engineering Math (*MATLAB*), Intro Design (*Human Factors and Design Process*)

## Education

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### University of Waterloo

September 2024 – April 2029

*Bachelor of Applied Science in Systems Design Engineering, Honours*

*Waterloo, ON*

- Cumulative average: 89%
- **Awards:** President's Scholarship of Distinction (2024), TELUS Entrance Scholarship (2024)