

KEVIN GE

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SUMMARY OF QUALIFICATIONS

- Experience in full-stack web development, real-time simulation engines, AI agent design with LLM function calling and RAG, scripting automation, and embedded systems; available September to December 2026
- Proficient in Python, TypeScript, JavaScript, C#, C++, React, Next.js, VBA, and AI coding tools (Claude Code, Codex)
- Active member of University of Waterloo's Midnight Sun solar EV team collaborating across hardware and software domains, with proven leadership coordinating 110+ volunteers across nonprofit projects raising \$2,500+ for charity

EDUCATION

University of Waterloo

Waterloo, ON

BASc. Honors Electrical Engineering

EMPLOYMENT HISTORY

Engineering Design Co-op

Jan. 2026 – Apr. 2026

S&C Electric

Toronto, Ontario

- Engineered C#, VBA, VBS, and HTML automation tooling to streamline engineering design workflows across the team
- Refactored legacy codebases by resolving COM API integration issues and rewriting Bill of Materials and wiring report generation logic, restoring deprecated CAD tools to active production use across the design team
- Built data parsing scripts using regex and natural-sort algorithms to produce structured component library outputs
- Authored Excel and 3DX macros for data storage and retrieval across enterprise component libraries

Piano Teacher

Dec. 2023 – Present

RS Music

Calgary, AB

- Delivered custom instruction to 150+ students across all ages and skill levels, building mentorship and communication skills

RELEVANT EXPERIENCE

Hardware Design Team Member

Oct. 2025 – Present

Midnight Sun Solar Rayce Car Team

Waterloo, Ontario

- Designed and simulated multiple 2-layer PCBs with schematic integration, custom libraries, and DRC compliance
- Selected components and ran power-budget calculations to enhance circuit efficiency, signal integrity, and manufacturability
- Documented design process and validation results in technical reports to support cross-team handoff and future iterations

PROJECTS

Tim Hortons AI Customer Care | *TypeScript, Next.js, React, OpenAI, Together AI, LoRA*

May 2026

- Built and deployed a production AI customer service agent for Tim Hortons in Next.js 16, React 19, and TypeScript, implementing a hand-rolled multi-turn agent loop with NDJSON streaming over fetch and no LangChain or Vercel AI SDK
- Engineered a custom RAG pipeline using OpenAI text-embedding-3-small with cosine similarity over a curated FAQ corpus, paired with four function-calling tools for account lookup, rewards balance, points restoration, and perk issuance
- Built an LLM-as-judge eval harness with gpt-4o-mini scoring agent runs across 10 multi-turn scenarios, iterating the system prompt to reach 100% tool-use accuracy and perfect voice consistency
- Fine-tuned Llama-3.1-70B-Instruct via LoRA on Together AI; diagnosed an inference-time tool-format mismatch between OpenAI JSON and Llama python-tag tokens, then shipped gpt-4o to production

ATSimulator | *TypeScript, React, Python, Claude Code, Codex*

Mar. 2026 – Present

- Built a browser-based Automatic Transfer Switch simulator in React and TypeScript featuring a graph-based circuit engine that computes energization paths, breaker state logic, and open/closed/fast transfer sequences in real time
- Implemented a BFS flood-fill connectivity solver to model breaker interlock logic, sync-check gating, undervoltage pickup delays, automatic retransfer sequencing, and bus-level energization across primary and backup sources
- Engineered a CAD-style topology editor with snap-to-grid placement, orthogonal wire routing, and port-aware rotation, decoupling simulation time from clock time to support variable playback speeds from 0.05x to 5x
- Integrated AI coding tools (Claude Code, Codex) for architecture review, refactoring, and faster iteration

TECHNICAL SKILLS

Programming: Python, TypeScript, JavaScript, C#, C++, C, VBA, VBScript, SQL, HTML, CSS

Frameworks & Tools: React, Next.js, Node.js, Tailwind, Git, OpenAI API, RAG, LoRA fine-tuning, Claude Code, Codex

Software: Microsoft Office (Excel, Word, PowerPoint, Teams), Vercel, Arduino, GIS, PLS CADD Suite

Hardware/Design: PCB Design (Altium), AutoCAD Electrical, Microstation, Zuken E3, Breadboarding

Professional: Leadership, Public Speaking, Mentorship, Technical Writing, Collaboration