Anthony Hana

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EDUCATION

McMaster University   **Sept 2022 - Present (Exp. Apr 2027)**
Honours Mathematics and Computer Science (B.Sc.)   *Hamilton, ON*
- **Extra Curriculars:** McMaster Start Coding, MGDC (McMaster Game Dev Club), Volleyball / Soccer Intramurals
- **Courses:** Software Development, Data Structures & Algorithms, Natural Language Processing, Numerical Linear Algebra, Mathematical Modeling, Databases, Computer Architecture

EXPERIENCE

AI & ML Engineer   **September 2025 - Present**
LTV.ai   *Toronto, ON*
- Engineered **high-throughput email generation systems**, increasing send capacity by **400%** through **Anthropic response caching**, pre-computation pipelines, and asynchronous task orchestration
- Improved and implemented features driving **client acquisition and retention** by creating and optimizing **frontend analytics dashboards** and **backend query performance** across high-volume datasets
- Refined **LLM prompting strategies** for email personalization, raising accuracy from **80% to 98%** while reducing **token usage by 30%** via prompt compression and context window optimization
- Created a fully automated **ephemeral environment workflow** using **GitHub OIDC** and cloud deployment scripts to provision and tear down **isolated dev environments**, enabling engineers to test features without manual review

Software Architect   **June 2025 - Present**
STaBL Foundation (McMaster Start Coding)   *Hamilton, ON*
- Building and maintaining the **McMaster Start Coding** platform using **React**, **Haskell/Python**, and **PostgreSQL** to enhance performance and usability
- Developing the **Stabl.Rocks Elm IDE** with real-time collaboration and server-side compilation to support workshops for **50,000+** students

PROJECTS

Posture-bot - Hack The North 2025 | ⌂ | 🔗 | Python, JavaScript, Typescript, Node.js, DynamoDB
- Built an AI-powered **posture tracking system** in under 36 hours using **OpenCV** and **MediaPipe Pose** to analyze skeletal geometry and detect slouching in real time
- Implemented an **AI-generated posture report** summarizing full-session analytics, angle distributions, stability metrics, and improvement insights to personalize feedback for users

HEALense AI - SpurHacks 2025 | ⌂ | 🔗 | Cloudflare, Gemini API, Typescript, React, Javascript, Tailwind CSS
- **Multimodal** fullstack app: upload a photo, query **Gemma 3**, receive answers highlighted directly on the image/chat
- Built a TS Cloudflare Worker backend that routes chat, caches in **KV**, stores images in **R2**, logs history in **D1**
- Streams user **image + prompt** payloads to the **Gemma 3** AI via gemini api and relays structured responses to clients

MacPad: macOS Native Text-Editor | ⌂ | Swift, SwiftUI, AppKit, Swift Concurrency, UniformTypeIdentifiers
- Developed high-throughput asynchronous file I/O for **plain-text** and **RTF** documents, delivering near-instantaneous (**<100ms**) load/save times and a lightweight, freeze-free editing experience
- Features dynamic theming, atomic save routines, unsaved-change indicators, and state-restoration to ensure seamless native UX and robust **data-loss** prevention
- Engineered multi-encoding text handling with automatic format detection and lossless conversion across 18^+ encodings (UTF-8, ASCII, etc.) with guaranteed document integrity

Website Portfolio: anthonyhana.com | ⌂ | 🔗 | React, Tailwind CSS, Javascript, Node.js, Vite
- Personal portfolio that showcases my **projects**, **skills**, and **experience** through smooth animations and responsive design

TECHNICAL SKILLS

Programming: Typescript, Javascript, Python, Java, Swift, C, R, SQL, Haskell

Frameworks & Tech: Angular, NodeJS, React, Tailwind, FastAPI, Terraform, Handlebars, LLMOps, NextJS

Tools and Platforms: AWS (ECS, EC2, CW, S3), Git/Github (OIDC), Postman, Docker, Overleaf, Jira

Data: PostgreSQL, DynamoDB, Redis, Clickhouse, Kafka, DBeaver