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 **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 40%** and **costs by 25%** 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

LavaLock - DeltaHacks XII | ⭘ | 🔗 | Swift, Go, C++, AWS, PostgreSQL

- Secured **1st place** in the Swift Student Challenge at DeltaHacks XII by developing a hardware-backed password vault leveraging **physical entropy** and **GenAI** for secure credential generation
- Architected a scalable **Go/C++** backend processing hardware streams via **AWS S3** and **EC2**, enabling secure image pipelines and high-performance database transactions
- Built a native SwiftUI iOS app featuring fluid animations and secure keychain integration to generate and store cryptographically secure passwords

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

TECHNICAL SKILLS

Programming: Typescript, Javascript, Python, Go, 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