

Thanosan Prathifkumar

+1 437-231-8133 | p.thanosan23@gmail.com | github.com/thanosan23

EXPERIENCE

Software Engineer

July 2025 – August 2025

Royal Bank of Canada

Toronto, Canada

- Automated ATM service restarts across **40+ servers** in RBC Carribean with Python, replacing manual processes
- Reduced downtime by **20%** via self-service ticket-based tooling and saved **27 developer-hours per month**

Machine Learning Engineer

April 2024 – Dec 2024

Triage

Toronto, Canada

- Built a production RAG pipeline using LangChain and ChromaDB, ingesting over **10k medical documents** to power a clinical LLM
- Scraped and cleaned large-scale medical data, managing datasets using Databricks and SQL
- Iterated quickly with CEO and CTO, resulting in measurable improvements in diagnostic response quality

Research Intern

June 2025 – Present

Dartmouth College

Remote

- Designed a Bayesian neural network in Python for spatial transcriptomic uncertainty quantification
- Ran large-scale experiments on Dartmouth's HPC cluster; will be presenting work at **AACR 2026** in San Diego

Research Intern

March 2023 – Present

University of Waterloo

Waterloo, Canada

- Ran **500+ experiments** via the Anthropic API to study SWE-Bench-Verified benchmark leakage on Claude Sonnet models
- First-authored** and published research paper based on experimental findings

Founding Engineer

June 2025 – September 2025

Constellation

Toronto, Canada

- Integrated **AI-powered profile enrichment** into the platform, owning the feature end-to-end from design to deployment
- Worked closely with former C100 CEO Ray Newal in implementing requested full-stack features onto the platform, as well as fixing bugs to ensure the platform is ready for deployment

PROJECTS

VLBI Image Reconstruction | *PyTorch, Numpy*

August 2024 – June 2025

- Used PyTorch to develop a U-Net model to reconstruct images of black holes with **SSIM of 0.617**

Restoration AI | *Next.js, MongoDB, Stripe*

May 2023

- Built full-stack AI image restoration website for MLH hackathon; Won **first place** at MLH's HighSchoolHacks hackathon
- Integrated GFPGAN model via a Python backend to **restore degraded photos**, served with Next.js and MongoDB

HONOURS AND AWARDS

National Entrepreneurial Scholar

September 2025

Horatio Alger Association of Canada

Horatio Alger Association of Distinguished Americans, Inc.

TECHNICAL SKILLS

Languages: Python, C, C++, Rust, SQL (PostgreSQL, SQLite), JavaScript/Typescript, HTML, CSS, Java, Kotlin

Frameworks/Libraries: React, Next.js, Flask, PyTorch, Tensorflow, Pandas, Sci-kit learn, TailwindCSS, Cypress

Developer Tools: Git, Docker, Docker Compose, VS Code, Neovim, Linux, Jupyter Notebook

EDUCATION

California Institute of Technology (Caltech)

Pasadena, California

Incoming Undergraduate

Fall 2026

Central Peel Secondary School

Brampton, Ontario

Ontario Secondary School Diploma

Sept. 2022 – Jun. 2026