Steven Thomas Mathew

stethomat.me
https://github.com/steven-mathew
ste.tho.mat@gmail.com

Education

Sep 2019 - Present
Expected: May 2023

University of Toronto (BSc)

Specialist in Computer Science and Minor in Mathematics.

Received **Dean's List Scholar** award with a GPA of **3.94** (Major: 4.0). Entered with a **$2000** UofT Entrance Scholarship.

Technologies

Languages	Python, Java, C, Go, Typescript, HTML, CSS, Rust, SQL, bash
Frontend	React, Next, Tailwind
Backend	Node, Express
Databases	MongoDB, PostgresQL
Tools	Git, Unix, Postman, Makefile, Vercel, Docker, Neovim, tmux

Experience

illuminote
@ Hack the North

repo
devpost
demo

Pair-programmed a mixed-reality multiplayer game submitted to University of Waterloo's Hack the North 2020++ written in **Pygame** and **OpenCV**.

Accurately applied a transformation matrix to the screen contour to warp the image to a regular perspective.

Used canny edge detection to extract features from sticky notes on the screen to design the game map allowing the players to interact with the real world.

argus.
@ Hack the 6ix

repo
devpost

Built a real-time accident detection solution for CCTV footage leveraging **TensorFlow**'s machine learning model in **Python** at Hack the 6ix.

Reports road accidents immediately to the web and phone via **Express** and Twilio API to reduce response time for assistance accommodations.

Displays the location of the crash using Google geolocation and shows truncated footage of the crash.

Projects

readme.
repo

Developed a fully-featured backend for curating projects targeted towards developers. Posts include comments and a voting system much like Reddit.

Designed a scalable, maintainable RESTful API using **Typescript**, Express, and **Postgres**.

Architected performant, robust code with resilient error and exception handling, and used **JWT** authentication middleware to persist session information.

kNN-predict
repo

A lightweight handwriting recognition tool written in **C** using k-nearest neighbors (with Euclidean and cosine distance heuristic functions) trained on the MNIST Dataset.

Used **parallelism** to efficiently distribute classification over multiple cores in the CPU.

Increased speeds up to **x64** using this multi-threaded approach.

Competitive Progamming
repo

A repository containing over **400** competitive programming solutions to online judges such as Codeforces, DMOJ, and Leetcode written in **C++,** Java, and Python.

Included a C++ **open-source** library of blazingly-fast templates for algorithms and data structures. Covered topics on Graph Theory, Dynamic Programming, Data Structure, and more.

Personal Website
demo

Engineering and maintaining a website using Typescript, **Next**, and Tailwind.

Shipping a blog with live markdown preview and LaTeX rendering support, deployed through **Vercel**.