

Pavithran Chelliahpillai

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EXPERIENCE

HTS Engineering

Jun. 2024 – Aug. 2024

Software Engineering Solutions Subcontractor

Toronto, ON

- Designed and implemented a database system to efficiently index and manage **500+ projects and code snippets**, enabling seamless future reuse and repurposing
- Developed a full-stack web application for project management using **Django, JavaScript, Node.js, PostgreSQL, and MySQL**, enhancing user experience and system integration
- Optimized retrieval operations by leveraging **polynomial rolling hashing** and designing a **latent semantic search indexing algorithm**, achieving a **300%+ improvement in query speed** and a **73% reduction in erroneous queries**

Principle Air Systems

Jun. 2022 – Aug. 2024

Automation Systems Programming Intern

Vaughan, ON

- Assisted HVAC engineers with creating **technical drawings** and related **integrated graphics** of over **100+ buildings' systems**
- Gained technical knowledge of air systems, and the importance of the design process through assisting the **planning of 175,000ft²+** of buildings' layouts
- Applied programming expertise in automotive programming systems across **50+ large-scale projects**

Narpavi Consultancy

Jan. 2024 – Present

Founder, CEO, Freelance Web Development Firm

Mississauga, ON

- Developed front-end and back-end web applications and sites for **10+ companies and organizations**, generating **\$10k+ annualized profit**
- Utilised **HTML, CSS, and JS within a Svelte framework** to create captivating websites with heavily optimised, high performance code
- Portfolio of work: [Kanthavanam](#), [Principle Air Systems](#), [Personal Site](#)

Oakville Swim Academy

Feb. 2023 – Jul. 2024

Swim Instructor

Oakville, ON

- Worked with **100+ students** of all skill levels and abilities from **beginners to Olympic levels**
- Collaborated with deck supervisors, operational managers, and parents** to provide high quality lessons

PROJECTS

TrainTrack | C++, Armadillo, Dlib, QuantLib, React.js, PostgreSQL

Mar. 2024 – Present

- Developed a webapp to back-test user-created stock strategies through artificial intelligence
- Recognizes distinctions in price action between technical (chart-based) analysis and fundamental (event/news-based) analysis at a high degree
- Utilizes a C++ stack with Armadillo as the main artificial intelligence library for efficiency with a React frontend

LEGOify | Python, C++, React, Django, MySQL

Jan. 2022 – Aug. 2023

- Created an app designed from scratch to allow users to take a picture of any item and instantly receive pictorial instructions on how to create a 3-D LEGO model of the object
- Applied a divide-and-conquer algorithm with dynamic programming techniques to optimize solutions for large scale models, along with photogrammetry artificial intelligence technology

EDUCATION

University of Waterloo

Waterloo, ON

Bachelor of Software Engineering, Honours, Co-operative Program

Expected Graduation 2027

Minor in Computing and Optimization, Specialization in Artificial Intelligence

AWARDS AND HONOURS

Academic: Recipient of the Governor General of Canada's Academic Medal of Excellence (99.83% average)

Scholarships: UWaterloo President's Scholarship of Distinction, UWaterloo Alumni@Microsoft (Offered), \$15,000 UofT President's Scholar of Excellence (Offered)

References available upon request