Mithil Damani

m3damani@uwaterloo.ca (437) 972-3526 mithildamani256.github.io mithil-256-d
mithildamani256

Education

University of Waterloo *Sept 2021 – Apr 2026*
Bachelor in Computer Science (Co-op)

- GPA: 3.7/4.0
- **Coursework:** Algorithms, Introduction to Artificial Intelligence, Introduction to Machine Learning, Deep Learning Specialization (Coursera), Object-Oriented Software Development

Experience

Machine Learning Intern *Dallas, TX*
Cynapta *Sept 2024 – Dec 2024*

- Prompt-engineered ChatGPT-4 with OpenAI's ChatCompletion API for strict web-content-based queries
- Developed a UI with Next.js and TypeScript for customer-driven social media content creation
- Utilized Puppeteer and Cheerio to generate markdown content and capture screenshots of target websites
- Implemented chat history functionality and user-based authentication using Firebase for 1k+ users

Machine Learning Intern *Burlington, ON*
WealthyPlanet *May 2023 – Aug 2023*

- Fine-tuned GPT-3.5-turbo with the OpenAI SDK to build a personal finance optimization engine for 5k+ users, achieving a 0.61 validation loss and reducing operational costs by 10% through optimized token usage
- Collected binary preference data from users and used it to guide few-shot prompting techniques.
- Added support for the financial chatbot using a bubble.io UI, achieving a usage rate per login of over 70%
- Engineered a Docker-hosted Flask API layer to access the model, handling 10k+ user requests monthly

Software Developer Intern *Oakville, ON*
Geotab *Jan 2024 – Apr 2024*

- Enhanced UI components for assets page using React and TypeScript, boosting usability for 100k+ users
- Authored Jest and Selenium test suites in C# to validate functionality and integration of 6 new components

Software Developer Intern *Remote*
Niyo *May 2022 – Aug 2022*

- Developed a GraphQL API with Apollo Server using SDL and Typescript, for a banking app with 5k+ users
- Deployed over 30 GraphQL queries and mutations, enhancing the Transactions page performance by 20%
- Implemented MongoDB resolvers using Mongoose, efficiently handling over 1k+ requests daily

Projects

SynthCheck *kaggle*

- Implemented transfer learning with PyTorch to fine-tune ResNet50 for real vs. synthetic image classification
- Optimized model performance to achieve an F1 score of 0.92 and validation set accuracy of 93%

FaceMask Detection *kaggle*

- Optimized YOLOv8 for facemask detection and localization, reaching 0.89 mAP@0.5 and 0.75 mAP@0.5:0.95
- Achieved 0.82 precision and 0.85 F1 score, enhancing model robustness and detection consistency

Skills

Languages: Python, C++, C, C#, SQL, JavaScript, TypeScript

Tools and Technologies: PyTorch, Pandas, Numpy, Scikit-learn, Torchvision, React, React Native, Bootstrap, Node.js, Git, Jira, GraphQL, MySQL