Thomas Nolasque

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EDUCATION

Carleton University Sept. 2022 – Jan 2027

Bachelor of Computer Science Honors, AI and ML Stream, CO-OP, 11.93/12 GPA, Bilingual *Ottawa, ON*

Courses: Database Management & Operating Systems, Abstract Data Types/Algorithms, Geospatial Programming, Web Development, Discrete Structures II, Cryptography and Authentication, Software Engineering

Competitions Team Member at Hack the Hill

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, TypeScript, HTML/CSS, C/C++, C#, Bash
Frameworks: React, Bootstrap, Node.js, Express.js, AngularJS, Tailwind, Vue.js, .NET Core, Spring Boot, FastAPI
Tools: Git, GitHub, VS Code, MongoDB, IIS, MySQL, PostgreSQL, Linux, AWS Lambda, Docker

EXPERIENCE

Teaching Assistant for Discrete Structures I Sept. 2023 – Dec. 2023

Carleton University *Ottawa, ON*

- Compared the efficiency of different algorithm design choices and linked them to existing course material to develop a more holistic understanding of the course.
- Graded over 100 submissions, identified common misconceptions, and consolidated course concepts, showcasing in-depth knowledge of the course content.
- Acquired new problem-solving techniques, enhancing my intuition for algorithm design.
- Delivered tailored guidance to 10+ students on intricate algorithmic concepts in a one-on-one environment.

PROJECTS

Hack the Valley 8, uToronto Hackathon, 1st in Georgian AI Challenge | *Python, OpenAI* Oct. 2023

- Developed and showcased methods for building models that can identify emerging entrepreneurs using Python.
- Demonstrated proofs of concept with engineered prompts for OpenAI API calls, predicting the likelihood of success of startups and analyzing the rhythm and speech content, to rank startup pitches relative to each other.
- Provided insights for identifying visionary leaders, through AI-guided text-analysis of LinkedIn profiles and research into current industry growth and stock prices within the startup's industry.

Hack the Hill, uOttawa Hackathon, 2nd in MakerCon Challenge | *C++, JavaScript, Python* March 2023

- Trained a Computer Vision model with OpenCV and TensorFlow to sort waste into landfill, metal, plastic, and cardboard categories.
- Used Web Sockets with JavaScript to update the UI in real-time, indicating which bin the item belonged in.
- Implemented LED lights indicating the correct bin for disposal with C++ and an Arduino.
- Provided audio feedback for the visually impaired using Python and VLC.

Real-Time Messenger App | *MongoDB, Express.js, React.js, Node.js, Socket.io, MaterialUI* Aug. 2023

- Implemented a MERN stack chatroom application with private rooms using Socket.io.
- Used React.js and MaterialUI for a responsive, aesthetic front-end.
- Handled routing with Express.js and Node.js, giving each room a uniquely generated URL, along with adding it to the room list for everyone, removing it once the room is deleted.
- Created reload-persistent rooms using MongoDB and Mongoose.

Message Board | *Docker, AWS Lambda, PostgreSQL, Vue.js, FastAPI, Python* Feb. 2024

- Established a robust and scalable database using Postgres SQL, enhancing data management for user and message data through the implementation of CRUD (Create, Read, Update, Delete) operations.
- Developed a RESTful API using FastAPI, improving the interaction between the database and the front-end.
- Created a dynamic front-end with Vue.js, enhancing user experience and interaction with the API.
- Deployed the application using Docker and AWS Lambda, ensuring seamless deployment and scalability.