Ty Nasello

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Education

Candidate for BASc Mechatronics Engineering, 2026. CGPA: 3.97 **Expected Graduation: 2026**
University of Waterloo – Waterloo, ON.

Courses: Algorithms and Data Structures, Linear Algebra, Digital Computation, Calculus II

Experience

Orbiseed Technology Inc. – Toronto, ON. Sep 2022 - Oct 2022 (ceased operations)
Software Engineer Intern
Back-end development practicing domain-driven design and Agile methodologies (Employer Evaluation: **Outstanding**).

- Implemented application features (with a focus on the back end) that enable insurance carriers and brokers to process and summarize documents more effectively and 6x faster than humans.
- Created/modified various RESTful endpoints in an Onion Architecture, made client-facing front-end changes, and wrote unit and integration tests for new and existing code (**Express.js, TypeScript, React.js, MongoDB, Jest/Chai**).
- Leveraged numerous libraries such as InversifyJS (an IoC container) and mongoose, as well as tools like **Docker** and **AWS (Lambda, SQS, and S3)**. Learned in-depth how a **CI/CD** pipeline is constructed, and how services like AWS (CloudFront, ECS, ECR, CodeBuild, CodeDeploy), GitHub Actions, etc. can be used to do so.

MedMe Health – Toronto, ON. Jan 2022 - April 2022
Software Development Intern
Agile full stack web development (Employer Evaluation: **Outstanding**).

- Operated on the front end and back end of multiple web applications that enable pharmacists across Canada to manage and provide clinical services at scale.
- Implemented numerous features including new patient intakes, new pharmacist modules, and a refactoring of navigation on the apps settings page. Completed bug fixes in a back-end monolith, and was an initial driver in unit testing new React components. (**React.js, TypeScript, GraphQL, PostgreSQL, Java, SpringBoot, Redux, Jest/RTL**).
- Improved existing front-end systems, and designed a tool to expedite the process of mapping PDFs holding patient information stored in a PostgreSQL DB. Said tool increased team efficiency and outsourced work to non-developers.

Projects

Facial Expression Classifier – GitHub July 2022

- Constructed a convolutional neural network (**CNN**) that classifies images of human faces based on their emotions.
- Employed transfer learning and performed hyperparameter tuning and data augmentation to improve model performance, reaching a test accuracy of 65.5% (would've ranked top 5 in Kaggle competition). (**Python, PyTorch, NumPy, Pandas, Matplotlib**).

Food Delivery App – GitHub Demo Mar 2022 – April 2022

- Designed and built a fully fledged clone of a food delivery app (excluding payment). Users are able to login, browse a variety of foods from different locations, add and manage their shopping carts, and checkout desired items.
- Constructed an **API** to support CRUD functionality and user authentication (using JWTs), created a multi-page front-end UI from scratch, wrote unit and e2e tests, and containerized and hosted the application on Heroku and GitHub Pages. (**NestJS, TypeScript, React.js, GraphQL, PostgreSQL, Prisma, JWT, Jest, Docker**).

Older Projects: Full-Stack Blog App, CV Builder, Color Sorting Robot, Arduino Robot Car, Flappy Bird (Recreation).

Programming Skills: TypeScript/JavaScript, Python, Java, C++, SQL, C, C#, Swift.

Other: Git, Node.js, React.js, PyTorch, NestJS, Express.js, Docker, GraphQL, MongoDB, Jest, Redux, HTML/CSS.

Interests: SWE, Basketball, Running, ML, Nature.