Howard Dong

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EDUCATION

- **University of Waterloo** — Waterloo, ON
  Bachelor of Engineering Candidate in Mechatronics Engineering — *Sept. 2019 - Present*
  - **Relevant courses:** Algorithms and data structures, Computer Structures and Real-Time Systems

EXPERIENCE

- **NavMobility Inc** — Remote
  Machine Learning Software Developer — *Sept 2021 - Present*
  - Applied multiple deep learning ML models on urban lidar point cloud data sets for semantic segmentation
  - Created a web application to visualize segmentation results using **JavaScript** libraries

- **Opentext** — Waterloo, ON
  Software Developer — *Jan 2021 - Apr 2021*
  - Worked with 6 developers in implementing a gateway to expose specific API endpoints based on client authority
  - Developed **Maven plugins** with **Java Spring** and **Swagger** to compile docs for multiple **RESTful APIs**
  - Conducted **Fortify scans** through **TeamCity** to optimize the application and reduce code vulnerabilities by 10%
  - Executed **Blackduck scans** to solve Maven dependency version incompatibilities to reduce security risks by 20%

- **Springbay Studio** — Toronto, ON
  Software Developer — *May 2020 - September 2020*
  - Developed algorithms to solve game issues while maintaining Model-View-Controller development structure
  - Leveraged Unity's platform dependent compilation to expand OS compatibility for **IOS, Android, and WebGL**
  - Expanded market reach by connecting app to **Apple, Android, and Huawei** app stores through Unity APIs
  - Implemented **dynamic display logic** to optimize compatibility across all screen aspect ratios
  - Created dynamic loading algorithms to access multilingual data to support English, French and Chinese

PROJECTS

- **Blockchain Vaccine Verification Application** — JavaScript (React)
  - Decentralized application that securely stores vaccine records on IPFS with blockchain verification
  - Compiled and deployed **Smart Contract** Solidity files using Truffle to store data on the blockchain
  - Simulated **blockchain transactions** through a Truffle Ganache testing network to **run integration tests**
  - Imported various **React libraries** such as web3 and ipfs-http-client to connect a UI to the application

- **Facebook Chatbot** — Python
  - Application that automatically responds to Facebook messages with **deep neural network machine learning**
  - Generates replies using **TensorFlow** while providing options to customize responses
  - Utilized a **hidden Selenium browser** to seamlessly access and reply to Facebook messages

- **Employee Management System** — Java
  - Data management app that stores employee info in a **dynamic hash table optimized for data traversal**
  - Constructed the UI using **Java Swing** for users to add and edit employee information in the system

PROGRAMMING SKILLS

- **Languages**: C#, C++, C, Java, Python, JavaScript, HTML/CSS, SQL, MATLAB

- **Frameworks**: React, Java Spring, Maven, scikit-learn, TensorFlow, PyTorch

- **Tools**: Git, Agile/Scrum, PostgreSQL, Docker, Cloud Foundry, Node