Dennis Lam

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EDUCATION AND CERTIFICATES

Bachelor of Applied Science, Electrical and Computer Engineering   Toronto, ON | 09/2018 - 04/2023
UNIVERSITY OF TORONTO

Azure Fundamentals Certification   Toronto, ON | 05/2020
MICROSOFT

WORK EXPERIENCE

ROYAL BANK OF CANADA - WEALTH MANAGEMENT | SOFTWARE ENGINEERING INTERN
Toronto, ON | 05/2019 - 08/2019

- Lead and implemented a query analysis tool for handling over 20 000 user profiles (**MySql, C#, Visual Studio**)
- Collaborated with a team of 5+ lead developers to develop an API for banking and accounting statistics
- Developed automated testing programs for over 20 UI features and several databases for required QA testing and debugging (**Java, Spring Boot, JSON, XML, RESTful API, MongoDB)**
- Updated and maintained 2 testing frameworks while coordinating testing between web development and quality assurance teams to account for new versions of the Wealth Management web application

PROJECTS

DYNAMIC NEXT.JS WEBSITE   NEXT.JS, JAVASCRIPT, MONGODB, NODE.JS
Designed a productivity website with custom productivity features organized between 5 web pages with security protocols.

- https://github.com/Funinja/my-website⬈
- Constructed login and registration features that use Google reCAPTCHA v2 API to prevent DDOS attacks
- Stores and manages a **NoSQL MongoDB** collection of users with over 10 different fields
- Implemented open standard (**RFC 7519**) JSON Web Token authentication and middleware to ensure clients can view their information with both confidentiality and integrity

COURSIFY   PYTHON, FLASK, REACT, HEROKU, MONGODB
Directed a team of undergraduates for the creation of course planning software handling 5000+ courses

- Devised a search algorithm, search tag selection, and an autocomplete searchbar feature for searching through the thousands of courses using **Python and MongoDB**
- Produced 3+ **Python** tests for CI/CD pipeline for API requests and responses of selecting courses
- Assembled the **Heroku** deployment of the application through the **Heroku** API, configuring environment variables ensuring fundamental security practices
- Parsed 5000+ course data (ie course pre-requisites, department, etc) to setup an API and **MongoDB** database that allows for specified course planning

GEOGRAPHIC INFORMATION SYSTEM SOFTWARE - FRONTEND AND BACKEND   C++, GTK
Lead, constructed, and designed mapping **C++ GTK** software for 5+ cities all over the world, including Toronto.

- Uses Graph Data Structure Algorithms such as Dijkstra's shortest path algorithm and breadth-first search algorithms to give the shortest pathways between two destinations
- Applied multi-source Dijkstra and other algorithms making the map achieve a speed 70% faster than the other student map implementations.
- Made a custom user interface that filters maps with 1000+ geographic elements/landmarks and data sets/statistics.

SKILLS

Languages: JavaScript, Python, C++, C#, C, Rust, Lua, Verilog, Bash, Go, Java
Web Development: React.js, Next.js, Node.js, JavaScript, HTML/CSS, SpringBoot, JSON
Technology: Git, Docker, Unix, MongoDB, Unity, Neovim, Matlab, Visual Studio, Eclipse, Linux