www.github.com/gaberch
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GABRIEL RICHARD

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SKILLS

- **Software :** C++, Python, Linux/Unix bash scripting, Git, HTML/CSS, VBA, Java, Javascript, Docker, Typescript
- **Libraries/Frameworks :** Django, Django Node.js, Express, WebPack, Jest, Unittest, Pytest, Nose, Nginx, RabbitMQ, Celery, Dramatiq, Flask, Gunicorn, Angular, Jenkins
- **Databases :** MySQL, PostgreSQL, MongoDB, Redis
- **Cloud Environments :** Heroku, AWS

EDUCATION

Waterloo, ON **University of Waterloo** **Jan 2019 – Aug 2021**

- **Master's Degree:** Master of Engineering in Electrical & Computer Engineering
- **Graduate Diploma:** Graduate Diploma in Software Engineering

EMPLOYMENT

Software Engineer, Test & Automation **RideCo** **June 2020 – Present**

- Created test cases for and executed app UI & functional tests for Android & iOS.
- Consistently improved and added new features and bug fixes to python-based in-house simulation system (run through Jenkins builds) used for analyzing performance of existing routes and new routes, demonstration purposes and continual performance tests.
- Created procedure for, managed and executed release tests for every release cycle, including coordinating production deployments with appropriate stakeholders. Also held training sessions to inform relevant stakeholders of upcoming features.
- Continually added to and improved python-based automated integration/system test suite using the python unittest and nose libraries.
- Tech stack used in various capacities: Python, Django, Javascript, Angular, Jenkins, Redis, PostgreSQL, AWS, OpenStreetMap, Android, iOS, Flask, Nginx, Gunicorn, Celery, RabbitMQ, Grafana, ElasticSearch, Kibana, Linux bash scripting, Dramatiq

Hydropower Engineering Analyst **Hatch Ltd.** **May 2017 – June 2020**

- Developed VBA based tools to reduce turbine operating data analysis time by 60%.
- Developed Python scripts to streamline creation, update and reporting of Excel turbine efficiency analysis spreadsheets
- Debugged C++ based HydroVantage™ software modules to address software issues discovered in production mode.

VOLUNTEERING

Software Developer **UW Blueprint (University Club)** **Jan 2020 – April 2020**

- Developed a web app with a NodeJS backend and a React w/ Typescript frontend for a non-profit that connects local teachers with volunteer speakers
- Tech stack used in various capacities: Salesforce, Node.JS, React.JS, Typescript, Heroku Cloud Platform, Salesforce's Oracle Database, Git Version Control

CERTIFICATES

Certificate of Completion: Complete Python Bootcamp: Go from zero to hero in Python 3

- **Issued**: August 2019
- **Issuing Organization**: Udemy
- **Credential URL**: https://www.udemy.com/certificate/UC-YMD3QNHN/

Certificate of Completion: Java Tutorial for Complete Beginners

- **Issued**: September 2019
- **Issuing Organization**: Udemy
- **Credential URL**: https://www.udemy.com/certificate/UC-01K13VK9/

Certificate of Completion: The Complete Node.js Developer Course

- **Issued**: May 2020
- **Issuing Organization**: Udemy
- **Credential URL**: https://www.udemy.com/certificate/UC-852bfe0f-eb8e-41ae-a4b8-5560a4a4f72c/

SOFTWARE PROJECTS

MobiHealth (https://pyramid-backend.herokuapp.com/, https://github.com/gaberch/ece651-group-project)

- Developed a mobile app and web app to track a patient's blood pressure. Mobile app records a patient's blood pressure information while web app displays and manages a doctor's patient blood pressure data.
- Utilized: Django, Django REST Framework, MySQL, Android Studio, HTML & CSS, Travis CI, Pytest, Ubuntu 18.04, Heroku Cloud Platform

Minimum Vertex Cover Solver (https://github.com/gaberch/RandomInputGen-GraphGenerator-ShortestPathCalc-IPC)

- Developed a C++ program to implement a MiniSAT solver to deduce the minimum vertex cover of an undirected graph
- Developed a Python implementation to create an undirected graph based on a specific set of inputs
- Developed a C++ random generator to feed set of inputs to the previously mentioned Python implementation to create undirected graphs
- Utilized: Inter-Process Communication, Fork(),C++, Python, Git version control, unittest, doctest

Weather App (https://github.com/gaberch/node-weather-website)

- Developed a Node.js backend with minimal HTML & CSS frontend weather application to give current forecast based on city input.
- Deployed on Heroku at the following link: https://gaber-weather-application.herokuapp.com/
- Utilized: Node.js, DarkSky, MapBox, Asynchronous Methods, Express, HTML, CSS, RESTful APIs

Tool Library App (https://github.com/gaberch/tool-library)

- Developed a Node.js backend with a React frontend and MongoDB database to simulate a library of physical tools similar in functionality to the Toronto Tool Library at the following link: https://irbe.myturn.com/library/inventory/browse
- Utilized: React.js, Node.js, Jest, MongoDB, Mongoose, Express, WebPack, RESTful APIs

Task Manager API (https://github.com/gaberch/task-manager-api)

- Developed a Node.js backend task manager REST API complete with user accounts and authentication combined with a cloud hosted MongoDB database
- Used Postman to test the various API endpoints created
- Task Manager API currently deployed on Heroku at (please refer to GitHub for set of available requests): https://gabe-task-manager.herokuapp.com/
- Utilized: React.js, Node.js, Jest, MongoDB, Mongoose, Express, WebPack, RESTful APIs, Postman, Asynchronous methods

Social Media Database Client API (https://github.com/gaberch/social-media-db-client)

- Developed a Python3 social media client to interface with a MySQL database via a clearly defined set of commands
- Developed an SQL script to create the appropriate relational database based on a previously defined set of relations with their respective primary keys and foreign keys
- Developed an SQL script to load non-trivial example data in the database. Data sourced from Twitter Friends Project on the Kaggle platform
- Utilized: Python 3, MySQL, Git