

# MOE BACHROUCH

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## EDUCATION

### University of Ottawa

September 2019 – Present

B.A.Sc. in Software Engineering - GPA 9.89/10.0, Dean's List

Ottawa, ON

- Relevant courses: Software Design and Architecture, User Interfaces, Databases, Computer Networking

## SKILLS

**Languages:** Java, JavaScript, Python, C, C++, SQL, HTML, CSS

**Frameworks and Libraries:** Spring Boot, React.js (AntDesign, MaterialUI), Node.js, Express.js, jQuery, Bootstrap

**Tools:** Microsoft SQL Server, Git, Apache (Maven, Camel, Kafka), ConcourseCI, MongoDB, JIRA, Bash

## EXPERIENCE

### Manulife Financial Corporation

January 2021 – April 2021 & September 2021 – Present

Software Engineer (Co-op)

Toronto, ON (remote)

- Developed REST APIs and implemented backend services using Java Spring Boot to perform financial calculations and to decommission the Quant database which reduced business costs
- Taught myself React.js to develop frontend features such as tables generated from Excel spreadsheets while interacting with a REST API in the backend which improved UX for quant analysts and portfolio managers
- Built a feature to fetch and validate security cashflows from multiple SQL databases using Spring JPA and JDBC
- Wrote unit tests using Groovy and tested REST APIs using Postman, Swagger UI, and Microsoft SQL Server
- Monitored logs for existing Java microservices in Pivotal Cloud Foundry platform and addressed production bugs
- Wrote Flyway and PowerShell scripts and set up ConcourseCI pipelines to support migrations from GitLab to GitHub and SQL Server to Azure SQL which improved the development environment for engineers

### University of Ottawa

September 2021 – Present

Python Teaching Assistant

Ottawa, ON (remote)

- Presented and hosted weekly laboratory sessions for first year Python students
- Hosted weekly office hours to explain computing concepts in Python for first year students
- Developed assessment solutions and provided feedback for assignments, labs, and exams

### Employment and Social Development Canada

May 2020 – August 2020

Software Developer (Co-op)

Gatineau, QC (remote)

- Taught myself Spring Boot and Apache frameworks (Camel, Maven, Kafka) to build and maintain REST APIs supporting government Web services including early COVID-19 operations in an Agile Scrum environment
- Initiated skeleton of backend API used in Web services supporting Canada Pension Plan and Old Age Security
- Tested REST/SOAP APIs using Postman and SoapUI before the release of Government services during COVID-19

## PROJECTS

[www.moebachrouch.com](https://www.moebachrouch.com) | HTML, CSS, JavaScript, Bootstrap, jQuery, Formspree, AOS library

- Designed, developed, and deployed an HTTPS personal portfolio website with a custom domain
- Implemented a contact form using Formspree and validated the form using JavaScript/jQuery and RegEx
- Embellished the website by adding animations using the animation on-scroll (AOS) library

[RLC Circuit Design](#) | C, PLplot library

- Built a C application from the ground-up using the PLplot library
- The program plots a function derived from Kirchhoff's second law based on user input by using an incremental search root-finding method with a total of 100 points

[Beatwire](#) | React.js, react-i18next

- Designed, developed, and deployed a React.js website to rate and purchase beats from different music genres
- Implemented an internationalization feature using the react-i18next library to switch between English and French
- Hosted the app on Netlify

[Menace](#) | Java

- Developed a machine-learning tic-tac-toe algorithm for a course project based on a 1961 paper by Donald Michie
- The AI learns how to play automatically against a human via reinforcement learning