MOE BACHROUCH

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EDUCATION

University of Ottawa   September 2019 – Present
B.A.Sc. in Software Engineering - GPA 9.89/10.0 or 3.99/4.0, 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
- Developed frontend features using React.js including tables generated from Excel spreadsheets while interacting with a REST API in the backend which improved UX for quant analysts and portfolio managers
- Implemented an investment management algorithm using Java's stream API, Spring JPA, and SQL Server
- Wrote unit tests using Groovy and tested REST APIs using Postman, Swagger UI, and SQL Server
- Refactored data access layer using Spring Boot to prevent SQL injection vulnerabilities
- Scanned and analyzed 60 projects to spot Log4J vulnerabilities
- 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)*
- Hosted weekly laboratory sessions for over 50 first year Python students
- Held weekly office hours to explain computing concepts in Python for over 200 first year students
- Automated corrections by writing Python scripts which run unit tests, thus reducing correction time by 1/2

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 | *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