

# Radu Sebastian Petrescu

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## Education

**Bachelor of Software Engineering (B. Eng.)**

August 2021 – May 2025

McGill University

GPA: 3.62

## Languages

English (fluent), French (fluent), Romanian (native)

## Technical Skills

**Programming Languages:** Java, Python, C/C++, JavaScript

**Frameworks:** Power Apps/Power Automate, React, Node.js/Express, Axios, SpringBoot, Angular, Junit, Mockito

**Technologies:** XML, ESV2, Unix, Bash, Cucumber, Gherkin, Gradle, Git/GitHub, Agile, SQL, Docker

**Relevant Coursework:** Model Based Programming, Intro to Software Eng., Design Principles and Methods, Algorithms and Data Structures, Operating Systems, Algorithm Design, Prog. Languages & Paradigms, Software Requirements Eng., Artificial Intelligence

## Professional Experience

**Software Developer (Internship)**

January 2024 – August 2024

*Hydro-Québec, Montréal, Canada*

- Developed and implemented backend APIs using **Spring Boot** and **Java**, resulting in increased efficiency and performance.
- Enhanced user interface functionalities by implementing **Angular** components, resulting in improved user engagement.
- Collaborated with a team to integrate automated testing suites using **JUnit** and **Mockito** achieving 80% code coverage.
- Developed **Python** applications to automate JIRA ticket creation and data validation processes, boosting productivity by 300%, reducing manual QA efforts, and decreasing error rates.
- Utilized strong problem-solving skills to troubleshoot and resolve complex issues, ensuring the timely delivery of high-quality software solutions.

**IT Solutions Developer (Internship)**

May 2023 – August 2023

*CHUM - Centre hospitalier de l'Université de Montréal, Montréal, Canada*

- Analyzed and translated business requirements into effective solutions, impacting over 200 employees by streamlining the registration process.
- Designed and developed an application to automate the registration process of workers to the technical training using **Power Apps** applications, reducing the registration time by at least 50%.
- Developed and implemented Jira Service Manager forms while collaborating with a cross-functional team.

**Data Integration Developer (Internship)**

May 2022 – August 2022

*CHUM - Centre hospitalier de l'Université de Montréal, Montréal, Canada*

- Developed code on a software called **ESV2** coordinating with a team of 6 to successfully manipulate and integrate data.
- Utilized **Java** and **Python** to interact with various APIs, to obtain large data sets (JSON, CSV, XML) of over 10,000 records.
- Automated the transformation process using **XSLT** and processing of data into **SQL** database while reducing data-related errors, enhancing data quality, and reducing manual tasks with a success rate of over 95%.

## Projects

**Space Collision Prevention System (Canadian Space Agency)**

September 2024 – May 2025

- Designed and implemented a Space Collision Prevention System prototype for the Canadian Space Agency, enabling rapid risk assessment and decision-making for satellite collision avoidance.
- Built an interactive web application using **React (TypeScript)**, **Express**, and **Supabase**, with secure authentication, role-based access control, and dynamic dashboards tailored for different operator roles.
- Developed advanced visualization tools, including 3D spatial representations with **CesiumJS** and timeline-based graphs, to support technical analysis of Conjunction Data Messages (CDMs).