

KARIM RHOUALEM

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<https://github.com/karimrhoualem>

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SUMMARY OF SKILLS AND QUALIFICATIONS

Programming Languages | C#/.NET/ASP.NET • C++ • Java • Python • JavaScript • HTML • MySQL • NoSQL • VHDL

Technologies | Git • SVN • Microsoft Visual Studio • Jenkins • Gradle • UWP • Android

Operating Systems | Windows • Linux

Languages | English: Fluently Spoken & Written • French: Fluently Spoken & Written

WORK EXPERIENCE

Software Engineer Intern - Train Control Systems

May 2020 – Present

Bombardier Transportation

Montreal, Qc.

- Designed a control and health monitoring system (HMS) that runs on Bombardier APM trains.
- Used C#/.NET to build the multi-threaded core HMS software architecture. Also used the ASP.NET framework along with SignalR, HTML, CSS, and JavaScript to build real-time web applications for monitoring train modules.
- Created and maintained a virtual build server and the Jenkins CI/CD pipeline.

Assistant Portfolio Manager & Financial Analyst

Mar 2018 – Jul 2018

Palos Management Inc.

Montreal, Qc.

- Built a financial security risk ranking model in Excel to ascertain portfolio risk levels.
- Conducted company, industry, and macroeconomic analyses and presented them to internal management to be assessed as potentially viable investment choices and strategies.
- Executed daily security trades and interviewed prospective companies to include in Palos' investment portfolios.

Software Analyst

Nov 2017 – Mar 2018

FSecur

Montreal, Qc.

- Led the software adoption process for a new customer relationship management system called *Zoho* and was responsible for analyzing and transforming the data through Excel for the migration of customer accounts.
- Improved security incident response time by leveraging a dynamic network of applications and resources.

EDUCATION

Bachelor of Engineering – Computer Engineering (Co-op)

2018 – 2022 (Expected)

Concordia University

Montreal, Qc.

- GPA: 3.93/4.3
- Courses: Software Design Process, Data Structures & Algorithms, Operating Systems, Computer Organization.

Bachelor of Commerce – Finance

2012 – 2016 (Completed)

Concordia University

Montreal, Qc.

- Major in Finance, with Distinction.
- Member of the Beta Gamma Sigma Concordia Chapter (*top 5% of graduating class*).

Passed CFA Level II Exam

2016 – 2017

CFA Institute

Montréal, QC.

- Passed levels I & II of the CFA designation.

PROJECTS (<https://github.com/karimrhoualem>)

Space Concordia Canadian CubeSat Project – Command & Data Handling

Sept. 2019 – Present

- Software engineer for Space Concordia's Canadian CubeSat Project (affiliated with the Canadian Space Agency).
- Developing the software architecture in C/C++ for a satellite in low Earth orbit that will send data about the various subsystems, the general performance, and the health of the spacecraft to a ground control station.

Arduino Hovercraft

Sept. 2020 – Dec. 2020

- Designed a hovercraft using the CoppeliaSim physics engine, Lua, and Arduino.
- Used proximity sensors, servo motors, lift and trust fans, an Arduino microcontroller, and the SketchUp CAD design tool to build a miniature hovercraft that could traverse a variety of obstacle courses.

Java Cross-Assembler

Sept. 2020 – Dec. 2020

- Designed a cross-assembler in Java that utilizes a lexical analyzer and parser to generate binary and listing files.
- Implemented test-driven development with Junit within a Scrum environment over a period of 9 weeks.
- Implemented various design patterns and used Gradle as the CI/CD tool to validate new builds.

INTERESTS

Reading

Always learning new programming languages and technologies. You will always find me reading astronomy/physics/sci-fi books throughout the year.

Sports

Played junior professional tennis, where I competed at the national and international level until 2014. Member of Quebec Team for five years and was the two-time junior U16 Canadian doubles champion and two-time U16 Canadian singles semi-finalist.

Passions

I am passionate about astronomy, astrophysics, and space, and I hope to continue to expand my knowledge in these fields in my spare time.