

# Selim Belhaouane

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in selimbelhaouane

Resourceful software engineer with 5+ years in developing web applications, CAE solutions, and developer tools. Passionate about automation, CI/CD, test-driven development, types, and documentation. Loves both learning and teaching.

## experience

### MAYA Heat Transfer Technologies Ltd.

Montreal, Canada

#### Team Lead

2020-Now

Started and lead full-stack development for *Remote Simulation*: an on-premise distributed HPC platform integrated with Simcenter 3D.

- Architected entire system: backend web server, frontend single-page application, Simcenter 3D client, and job runners.
- Lead daily stand-ups and sprint reviews.
- Introduced C++/Docker development at Maya.

Django FastAPI React Typescript Cypress Nginx PostgreSQL Docker C++ Qt

#### Technical Lead

2018-2020

Lead development for custom NX Open applications.

- Lead software development guild meetings for project in a large organization.
- Developed Python library and tools to be used by engineers for rapid application prototyping. Also wrote extensive documentation and training material for the library.
- Onboarded, code-reviewed, and mentored junior developers.

Python

#### Individual Contributor

2017-2018

Developed custom NX Open applications for Siemens NX.

Python C++ .NET Framework

#### Test Engineering Intern

2014-2015

Tested Siemens NX software and integrated solvers.

### McGill Centre for Intelligent Machines

Montreal, Canada

#### Undergraduate Researcher

Summer 2013

Realistic modeling of friction forces at contact between rigid bodies.

MATLAB

## education

### M.Eng Thesis

McGill University

#### Mechanical Engineering

2015-2017

Master's in computational fluid dynamics, sponsored by Maya Heat Transfer Technologies.

- Thesis on implementation and validation of turbulence model in academic and commercial (NX Flow) finite volume codes.
- Used NX Open, Tecplot and Python for pre-processing and/or post-processing purposes.
- Developed web interface for querying in-house test suite, which is seen as an essential part of the development process today.

Python Matplotlib Tecplot C++ Fortran MPI jQuery LaTeX

### B.Eng

McGill University

#### Mechanical Engineering

2011-2015

- Designed and manufactured carbon fiber steering wheel as part of Capstone project with McGill Racing Team.
- Gave extracurricular classes on LaTeX.

Python MATLAB C Fortran LaTeX

## certifications

Agile Foundation Training

October 2019