Selim Belhaouane

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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.

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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   *2017-2020*
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*