

Nicholas Nadeau

PROFESSIONAL ENGINEER (P.ENG.), DOCTOR OF PHILOSOPHY (PH.D.)

Montréal, Canada

☎ +1-514-573-5620 | ✉ nicholas.nadeau@gmail.com | 🌐 www.nicholasnadeau.me | 📷 [nnadeau](#) | 🐦 [EngNadeau](#)

Education

École de technologie supérieure

Montréal, Canada

PHD - PRECISION AND COLLABORATIVE ROBOTICS

2014 - 2019

- Thesis: Towards the Development of Safe, Collaborative Robotic Freehand Ultrasound
- Created machine learning models and genetic algorithms for physical human-robot interaction.
- Invented a novel, robust, low-cost robot calibration platform.

McGill University

Montréal, Canada

B.ENG. - MECHANICAL ENGINEERING, BIOMEDICAL ENGINEERING MINOR

2010 - 2014

Dawson College

Montréal, Canada

DEC - HONOURS HEALTH SCIENCE

2008 - 2010

Work

AON3D

Montréal, Canada

ENGINEERING MANAGER

2019 -

- Head of software and hardware engineering, and member of executive team.
- Oversee the design, development, testing, and deployment of innovative solutions for challenging problems in the additive manufacturing domain.
- Ensure robust, scalable, reusable, efficient, production-quality software and hardware is being delivered to the organization.
- Usher and evangelize adoption of engineering best-practices and agile methodologies.
- Set the roadmap and budgets, drive detailed planning, and ensure execution of deliverables for a medium sized team.
- Manage the company-wide SR&ED program.
- Mentor and help bringing up of new team members, interviewing and hiring of new team members, ensure technical development of team.

AON3D

Montréal, Canada

SENIOR R&D ENGINEER

2018 - 2019

- Responsible for innovation and technology development to drive 10x revenue.
- Introduced automated data collection framework to help drive business and engineering decisions.
- Engineering ScrumMaster, responsible for ensuring the team has everything they need to deliver value.

YPC Technologies

Montréal, Canada

TECHNOLOGY ADVISOR TO THE CEO

2017 - 2018

- Advised CEO throughout FounderFuel startup accelerator in order to go to market and raise seed capital.
- Led a team of engineers and directed robotics and software design, development, and implementation.
- Recommended long-term approach to strategic suppliers and technologies with the aim of optimizing operations and delivering savings.

Rogue Research Inc.

Montréal, Canada

R&D ENGINEER

2011 - 2018

- Led mechanical research, design, and development of brain imaging, cognitive neuroscience, and robotic products.
- Led the development of a novel robotic veterinary neurosurgery system, including trajectory generation algorithms, computer vision, and hardware design.
- Developed devices and systems for transcranial magnetic stimulation (TMS), near infrared spectroscopy (NIRS), deep brain stimulation (DBS), and image-based neuronavigation.

Certifications & Professional Affiliations

Professional Engineer (P.Eng.) Ordre des ingénieurs du Québec (OIQ)

Associate Value Specialist (AVS) SAVE International

Committee F42 on Additive Manufacturing Technologies ASTM International

Open Water Diver Professional Association of Diving Instructors (PADI)

Publications

Towards the development of safe, collaborative robotic freehand ultrasound

NICHOLAS A. NADEAU. ÉCOLE DE TECHNOLOGIE SUPÉRIEURE.

2019

Pybotics: Python Toolbox for Robotics

NICHOLAS A. NADEAU. THE JOURNAL OF OPEN SOURCE SOFTWARE.

2019

Impedance Control Self-Calibration of a Collaborative Robot Using Kinematic Coupling

NICHOLAS A. NADEAU, ILIAN A. BONEV. MDPI ROBOTICS.

2019

Evolutionary Motion Control Optimization in Physical Human-Robot Interaction

NICHOLAS A. NADEAU, ILIAN A. BONEV. IEEE/RSJ INTERNATIONAL CONFERENCE ON INTELLIGENT ROBOTS AND SYSTEMS (IROS).

2018

An Extrinsic Dexterity Approach to the IROS 2018 Fan Robotic Challenge Modality B

JENNIFER KWIATKOWSKI, JEAN-PHILIPPE ROBERGE, NICHOLAS A. NADEAU, LOUIS L'ÉCUYER-LAPIERRE, VINCENT DUCHAINE. IEEE/RSJ INTERNATIONAL CONFERENCE ON INTELLIGENT ROBOTS AND SYSTEMS (IROS).

2018

Characterization of a robotic micro-surgical system for small-animal neurosurgery

NICHOLAS A. NADEAU, ALEXANDRU CIOBANU, FRED LAMER, MATHIEU COURSOLE, SEAN MCBRIDE, STEPHEN FREY, ROCH COMEAU. SOCIETY FOR NEUROSCIENCE.

2017

Professional Development

2020-03 **Colombia Recruiting Mission**, VanHack

Medellin, Colombia

2020-02 **3rd ASTM Additive Manufacturing Center of Excellence Workshop**, ASTM International

El Paso, USA

2019-11 **Formnext 2019**,

Frankfurt, Germany

2019-09 **2nd ASTM Additive Manufacturing Center of Excellence Workshop**, ASTM International

Senlis, France

2019-05 **RAPID + TCT 2019**, SME

Detroit, USA

2018-10 **2018 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)**, IEEE

Madrid, Spain

2017-11 **Neuroscience 2017**, Society for Neuroscience

Washington, USA

2017-01 **MUSE 1.0 Bedside Ultrasound Course for Primary Care Clinicians**, McGill University Steinberg Centre for Simulation and Interactive Learning

Montréal, Canada

2016-11 **Neuroscience 2016**, Society for Neuroscience

San Diego, USA

2016-05 **Collaborative Robots Workshop**, RIA International

Boston, USA

2013-06 **OHBM 2013**, Organization for Human Brain Mapping

Seattle, USA

Volunteer

2020 - **Mentor**, FounderFuel Startup Accelerator

2020 **Member of Technical Expert Panel & Mentor**, Code Life Ventilator Challenge for COVID-19

2020 - **Reviewer**, Sensors

2019 - **Reviewer**, Journal of Applied Mathematical Modelling

2019 - **Reviewer**, International Journal of Advanced Robotic Systems (IJARS)

2018 - **Reviewer**, The Journal of Open Source Software (JOSS)

2013 - 2014 **Communications Administrator**, Interaction du quartier Peter-McGill

2011 - 2014 **Discover McGill and Orientation Week Leader**, McGill University

2012 - 2013 **Treasurer and Communications Administrator**, Forum Jeunesse Centre-ville

2009 - 2011 **Volunteer Math and Science Teacher**, Innovation Jeunes

Talks

- 2020-04 **Speaker - Making Materials Matter**, Dyndrite Developer Conference 2020
- 2018-10 **Speaker - Evolutionary Motion Control Optimization in Physical Human-Robot Interaction**, 2018 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
- 2017-11 **Speaker - Calibrating Robots with Python**, PyCon Canada 2017
- 2017-10 **Speaker - Calibrating Robots with Python**, Montréal-Python 67
- 2016-12 **Keynote - Robotics and Neuroscience**, Clearpoint Elementary Exhibition Summit
- 2015-06 **Speaker - Medical Robotics**, McGill Faculty of Medicine Explore Camp
- 2014-05 **Keynote**, Riverdale High School Career Seminar
- 2014-02 **Keynote**, Riverdale High School Career Seminar
- 2013-05 **Keynote**, Lester B. Pearson School Board Science Showcase

Awards

- 2015 **Alexander Graham Bell Canada Graduate Scholarship**, NSERC
- 2014 **Mitacs Accelerate Industrial Research Grant**, Mitacs
- 2014 **Graduation Honours**, McGill University
- 2013 **Québec Iron Titanium Scholarship**, McGill University
- 2013 **Abe and Jennie Brock Award**, McGill University
- 2013 **Dean's Honour List**, McGill University
- 2013 **Industrial Undergraduate Research Award**, NSERC
- 2012 **Industrial Undergraduate Research Award**, NSERC
- 2011 **Industrial Undergraduate Research Award**, NSERC
- 2011 **Golden Key International Honour Society**, McGill University
- 2010 **First Class Graduation Honours**, Dawson College
- 2010 **Athletic Academic Achievement Award**, Dawson College

Skills

Languages	English, French
Software	Illustrator, Linux, MS Office, Photoshop, SolidWorks, Ubuntu, Windows
DevOps	CircleCI, Docker, GitLab CI/CD, Travis CI,
Back-end	Flask, Protocol Buffers (protobuf), REST API
Front-end	HTML5, Hugo, React
Programming	C/C++, Java, JavaScript, LaTeX, Node.js, Python, TypeScript
Machine Learning	Keras, OpenCV, scikit-learn, TensorFlow
Source Control	Git, Subversion (SVN)