

# Nicholas Nadeau

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

Montréal, Canada

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## Work

### Halodi Robotics

Montréal, Canada

CTO

2021 -

- Technology, product, and project direction of mobile humanoid service robots.
- General manager of Halodi Robotics Canada Inc.

### BRIDGR

Montréal, Canada

ADVISOR

2020 -

- Expert advisor assisting with special projects and key introductions.
- Mentor through the Techstars AI Montréal accelerator.

### AON3D

Montréal, Canada

ENGINEERING MANAGER

2018 - 2021

- Head of engineering and member of executive team through \$11.5M Series A.
- Responsible for Scientific Research and Experimental Development (SR&ED) Tax Incentive Program (\$300K+ in tax refunds).
- Engineering team management, product direction, and certification lead of high-performance additive manufacturing system.

### Nicholas Nadeau Consulting

Montréal, Canada

FOUNDER

2017 -

- Start-up advising, specializing in R&D and product development.

### YPC Technologies

Montréal, Canada

TECHNOLOGY ADVISOR TO THE CEO

2017 - 2018

- Advised CEO throughout FounderFuel startup accelerator, leading to \$1.8M CAD seed round.
- Led a team of engineers and directed robotics and software design, development, and implementation for FounderFuel Demo Day.

### Rogue Research Inc.

Montréal, Canada

R&D ENGINEER

2011 - 2018

- 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.

## 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.

### McGill University

Montréal, Canada

B.ENG. - MECHANICAL ENGINEERING, BIOMEDICAL ENGINEERING MINOR

2010 - 2014

## 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)

## Recent Publications

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- 2020 **Improved Test Methods for Polymer AM Inter-Layer Weld Strength and Filament Mechanical Properties**, Richard G. Cole, Kazem Fayazbakhsh, Abraham Avalos, Nicholas A. Nadeau. ASTM International Conference on Additive Manufacturing (ICAM).
- 2019 **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.
- 2018 **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).
- 2017 **Characterization of a robotic micro-surgical system for small-animal neurosurgery**, Nicholas A. Nadeau, Alexandru Ciobanu, Fred Lamer, Mathieu Coursolle, Sean McBride, Stephen Frey, Roch Comeau. Society for Neuroscience.

## Recent Talks

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- 2021-10 **Let's talk robotics with Dr. Nicholas Nadeau!**, Let's Talk Robotics Podcast
- 2021-10 **Pitch: Halodi Robotics**, Déclic Techno: Rendez-vous des startups et industrie de l'électronique
- 2021-10 **Safe and Capable Robots**, IEEE-EMBS Robotics Webinar
- 2021-04 **Hiring for Inclusive Robotics**, Silicon Valley Robotics - Society, Robots, and Us
- 2021-04 **Hardware in the Loop: Training Robot Contact in an Unstructured Environment**, Montréal-Python 85
- 2020-04 **Making Materials Matter**, Dyndrite Developer Conference 2020
- 2018-10 **Evolutionary Motion Control Optimization in Physical Human-Robot Interaction**, 2018 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
- 2017-11 **Calibrating Robots with Python**, PyCon Canada 2017

## Volunteer

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- 2021 - **Mentor**, Techstars Boston Accelerator
- 2020 - **Mentor**, Techstars Montréal AI Accelerator
- 2020 - **Mentor**, FounderFuel Startup Accelerator
- 2020 **Member of Technical Expert Panel & Mentor**, Code Life Ventilator Challenge for COVID-19
- 2020 - **Reviewer**, Sensors, MDPI
- 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)