Nicholas **Nadeau**

Professional Engineer (P.Eng.), Doctor of Philosophy (Ph.D.)

Montréal, Canada

+1-514-573-5620 | nicholas.nadeau@gmail.com | www.nicholasnadeau.com | nnadeau | EngNadeau | Nicholas A. Nadeau

Work

Halodi Robotics

Montréal, Canada & Oslo, Norway

CTO — *2021 -*

- Spearheaded the development of a new humanoid robot design for security guarding.
- Successful Series A funding of $10M with Valinor and ADT Commercial.
- Led company recruitment and growth to 50+ employees in 4 countries.
- Led pilot projects with enterprise customers leading to the single biggest contract ever for humanoid robots (140 robots to ADT Commercial).
- Led software development, team management, architecture design, and implementation of internal infrastructure.
- General manager of Halodi Robotics Canada Inc.

BRIDGR

Montréal, Canada

Advisor — *2020 -*

- Expert advisor assisting with team growth, architecture, and special projects (e.g., robotics, Industry 4..0) and critical introductions.
- Mentor through the Techstars AI Montréal accelerator.

AON3D

Montréal, Canada

Engineering Manager — *2018 - 2021*

- Head of engineering and executive team member through $11.5M Series A with SineWave Ventures, AlleyCorp, and Y Combinator.
- Led engineering team management, software and hardware development, product direction, and certification to develop high-performance 3D printing and additive manufacturing systems.
- Responsible for Scientific Research and Experimental Development (SR&ED) Tax Incentive Program ($300K+ in tax refunds).

Nicholas Nadeau Consulting

Montréal, Canada

Founder — *2017 -*

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

YPC Technologies

Montréal, Canada

Technology Advisor to the CEO — *2017 - 2018*

- Advised CEO throughout FounderFuel startup accelerator, leading to a $1.8M seed with Hike Ventures, Real Ventures, and Toyota AI Ventures.
- 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 biomedical 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

Ph.D. - Precision and Collaborative Robotics — *2014 - 2019*

- Thesis: Towards the Development of Safe, Collaborative Robotic Freehand Ultrasound
- Development of AI/ML models and algorithms for physical human-robot interaction, controller tuning, and robot calibration.
- Creator of *Pybotics*, a published open-source Python toolbox for robotics calibration, kinematics, ML/AI, and optimization.

McGill University

Montréal, Canada

B.Eng. - Mechanical Engineering, Biomedical Engineering Minor — *2010 - 2014*

Skills & Certifications

Certifications	Associate Value Specialist (SAVE International), Open Water Diver (PADI), Professional Engineer (Ordre des ingénieurs du Québec)
Productivity	Confluence, GitHub, GitLab, Jira
Hardware	KiCAD, SOLIDWORKS
Software	Balena, CMake, Docker, Flask, Gradle, gRPC, Linux, Make, PyTorch, REST API, ROS, TensorFlow, Yocto
Programming	C/C++, Java, LaTeX, Node.js, Python
Languages	English, French

Recent Publications

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

2022-01	**Careers in Robotics**, Dallas ISD STEM Expo
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 & Committees

2022 **Startup Mentor**, Next AI
2022 **Startup Mentor**, Creative Destruction Lab (CDL)
2021 **Technical Committee ISO/TC 299 - Robotics**, Standards Council of Canada Mirror Committee
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 **Committee F42 on Additive Manufacturing Technologies**, ASTM International
2018 **Reviewer**, The Journal of Open Source Software (JOSS)