

Paul Bovbel

Robotacist and Software Engineering Leader

Kitchener, Ontario, Canada

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<https://www.bovbel.com/resume.html>



With more than a decade of engineering experience and six years in a technical leadership role, I specialize in bringing complex systems from prototype to production. I value building complex things in a sensible fashion, and helping systems scale and grow - whether as physical robots, or cloud instances. I also enjoy the force multiplier of working with open source software and its community.

I currently work remotely from Kitchener, and I am authorised to work in the US via TN visa.

Technical Skills

I've had the opportunity to explore various technologies, and I have substantial experience with:

- C++
- Python
- Java (EE, Android)
- ROS1, ROS2, Gazebo and friends
- OpenCV and PCL
- Linux, systemd, and bash
- Docker, LXD, Ansible
- Jenkins and Github Actions
- PostgreSQL
- AWS

Employment

Locus Robotics – Boston, MA (Remote)

Director, Robotics Autonomy, *May 2025 - Present*

Senior Manager, Robotics Autonomy, *Nov 2024 - May 2025*

- Leading multiple robotics software teams, defining and driving a strategic roadmap for mobile autonomy across navigation, perception, localization, and mapping.
- Oversee the architecture and development of the robotic system, focusing on modern software development practices in observability, metrics, testing, and tooling.

Principal Robotics Software Engineer, Planning and Controls Team Lead, *May 2023 - Nov 2024*

Staff Robotics Software Engineer, Planning and Controls Team Lead, *June 2021 - May 2023*

- Managed a team of engineers responsible for robot navigation, including behaviors, path planning, and trajectory optimization.
- Focused on large, dense fleets of mobile robots operating in extensive semi-structured environments with human collaboration.
- Shipped 3 new autonomous mobile robot platforms in 2 years, meeting stringent safety and compliance requirements.

Staff Robotics Software Engineer, Platform Team Lead, *May 2019 - June 2021*

Senior Robotacist, *March 2017 - May 2019*

- Formed and built a Platform software team, overseeing CI/CD, cloud infrastructure, network communications, and developer tooling for battery-powered Linux servers on wheels.
- Implemented solutions for software lifecycle management, including crash reporting, monitoring, build, and deployment automation.
- Served as a robotics generalist, designing systems for 3D perception, navigation, robot control, and robot-to-robot communication.

Clearpath Robotics – Kitchener, ON

Senior Software Engineer, *Mar 2016 - Mar 2017*

Software Engineer, *Nov 2014 - Mar 2016*

- Designed and simulated a mission scheduling, execution, and monitoring system for fleets of autonomous mobile robots in factory environments.
- Modernized and maintained drivers, demos, and documentation for research robot platforms (e.g., [Husky](#)).
- Developed control, autonomy, and simulation software for quadcopter swarm research ([UAV Lab](#)).

Autonomous Systems and Biomechatronics Lab – University of Toronto, ON

Graduate Research Assistant, *September 2012 - May 2014*

- Prototyped multiple robotic platforms for research use (see [Casper](#), [MARP](#), and [Moverbot](#)).

Projects

I've contributed to many projects within the ROS ecosystem, but I'm particularly proud of my work on:

- [frontier_exploration](#) - a pluggable exploration system on top of the ROS1 navigation stack.
- [aiorospy](#) - a library to interface with ROS1 from within Python 3's asyncio framework.
- [catkin_virtualenv](#) - an infrastructure package to allow bundling a whole virtualenv of dependencies together with a ROS1 package.
- [tailor](#) - a turnkey CI system to quickly build large ROS1/2 distributions.
- [vrpn_client_ros](#) - a component to interface VRPN-compatible MOCAP systems with ROS1.
- [perception_pcl/pointcloud_to_laserscan](#) - pointcloud library bridge into ROS1/2.

Education

- Master of Applied Science, Mechanical Engineering, University of Toronto, 2012 - 2015.
- Bachelor of Applied Science, Mechanical Engineering, University of Toronto, 2006 - 2011.

Publications, Patents, Talks

- "Tailor CI: How Locus Deploys Robots At Scale", ROSCon, Macau, 2019. [[video](#)]
- Clearpath Robotics Patent US20190243384A1, "Communication Systems for Self-Driving Vehicles, and Methods of Providing Thereof", 2019. [[patent](#)]
- Clearpath Robotics Patent US20180276595A1, "Systems and methods for autonomous lineside parts delivery to an assembly line process", 2018. [[patent](#)]
- Bovbel, P., "A Person-search System for an Assistive Robot", Thesis, 2015. [[pdf](#)]
- Bovbel, P. and Nejat, G., "Casper: An Assistive Kitchen Robot to Promote Aging in Place", Journal of Medical Devices, Transactions of the ASME, 2014. [[pdf](#)]

Personal Interests

I enjoy volunteering with FIRST Robotics, [3D printing](#), backcountry canoeing/camping, cycling, and board games. I'm also an adequate guitar player.