

# GRISWALD BROOKS

Senior Robotics Engineer

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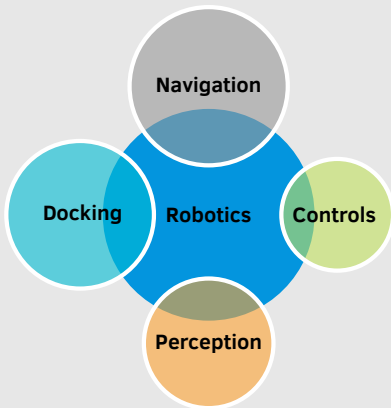
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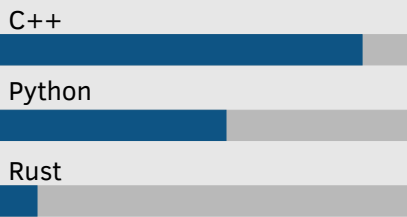
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griswaldbrooks

## Technical Skills



## Programming



## Education

**MSc., Electrical Engineering**

NYU School of Engineering  
May 2015 | Brooklyn, NY

**BSc., Computer Engineering**

NYU School of Engineering  
May 2013 | Brooklyn, NY

## Experience

Feb 2021 - **Senior Robotics Engineer**  
Present

PickNik Robotics

- Technical lead for poultry monitoring mobile robot, improving navigation stack performance and reliability. Creating simulation testing infrastructure integrated into CI to prevent regression.
- Technical lead for medical patient tracking app. Integrated prototype indoor ultra-wideband positioning system.
- Developed terrain profile switching system for Guanaquex quadruped robot.
- Implemented image stitching node for stereo camera system on quadruped robot.
- Onsite support for strawberry picking robot. Travelled to client site and helped remote team with testing and collecting data. Troubleshot state machine and concurrency issues.
- Implemented continuous integration systems for autonomous truck unloading, medical robotics, construction robotics.
- Mentored junior engineers on best practices and software design. Solicited CppCon Robotics Track submissions and assisted with presentation development.
- Attended ROSCon (2022/2023) and promoted PickNik's runtime and developer platform, MoveIt Pro.
- **Used:** C++, Python, Rust, ROS2, MoveIt2, Nav2, Git, Gtest, Catch2, GitHub Actions, Jfrog, Bitbucket, Gazebo

May 2018 - **Senior Robotics Engineer**  
Feb 2021

Bossanova Robotics

- Led navigation stack refactor, improving test coverage and code quality. Formalized ROS-less programming strategies, producing faster and more robust tests.
- Migrated next generation robot to more robust local planner, avoiding robot stuck situations and allowing navigation closer to obstacles.
- Solved navigation field issues stemming from costmap race conditions, lingering state, goal mismatches, and trajectory critics. This supported the scaling of the fleet from 50 to 350 robots.
- Designed and implemented navigation traceability and observability monitors enabling engineers to get targeted bag data of an event quickly.
- Built ground truth label collection system, used to compare results to robot scans for experimental label detector.
- **Used:** TOF/LIDAR, C++, Python, ROS, Git, Gtest, Jenkins, Optitrack

Jul 2016 - **Robotics Software Engineer**  
May 2018

Neato Robotics

- Improved docking reliability and added features. Refactored infrastructure producing documented unit tested code.
- Evaluated multiple tof/stereo cameras for technology selection.
- Built on-robot automated SQA infrastructure.
- **Used:** TOF/LIDAR, C++, Python, JS, QNX, Git, Jenkins, AWS, Catch2

Jul 2015 - **Robotics Engineer**  
Apr 2016

Fetch Robotics

- Developed EKF/LIDAR based tracking of people and mobile robots.
- Increased robustness of charge docking system through improvements in perception, navigation, and recovery behaviors.
- **Used:** ICP, EKF, C++, Python, ROS, Git, Gtest, LIDAR

## Community

CppCon 2023 Robotics Track Chair. Solicited talks, advised speakers, reviewed submissions, scheduled track.

Board Game Night Working Group Coordinator, Boston Chapter. Schedules hosting space, manage mailing list, maintains website <https://boardgamenightwg.com>.