

# Abhishek Kashyap

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## TECHNICAL SKILLS

**Languages:** C++, Python

**Softwares:** Robot Operating System (ROS), MATLAB, SolidWorks

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## WORK EXPERIENCE

- **Telexistence Inc., Tokyo, Japan** Sept 2021 - present  
*Robotics Automation Engineer*
  - Developing and maintaining motion planning modules of the TX-SCARA robot manipulator.
  - Prototyping new functionality for TX-SCARA and proving its viability to be usable in real stores.
  - Providing support in integrating computer vision modules.
  - Implemented verification tools for validating features and patches before pushing to production.
- **Molcure Inc., Tokyo, Japan** July 2020 - Aug 2021  
*Robotics Engineer*
  - Set up the ROS layer that handles bidirectional communication between UI and firmware for parallel robots.
  - Maintained and improved the firmware that receives data from the ROS layer.
- **Kyoto University, Kyoto, Japan** May 2019 - June 2020  
*Research Assistant (an industrial collaboration with Zeeko Ltd.)*
  - (University research) CAD/CAM software development: Implemented research papers to compensate for mechanical errors and improve positional accuracy of robots and CNC machines in the order of microns.
  - (Industry project) Manufacturing process automation: Automated a production pipeline that uses FANUC Robodrills which resulted in improved manufacturing cycle time.
- **City College of New York, New York City NY, USA** Oct 2018 - Apr 2019  
*Research Intern, Biomechatronics & Intelligent Robotics Lab*
  - Created a framework of wearable sensors to record kinematics during different physical activities.
  - Developed controls of a pneumatic soft ankle exoskeleton triggered by IMU feedback for people having *foot drop*.
- **IHP Microelectronics, Berlin area, Germany** Summer 2017  
*DAAD Rise Professional Intern, Circuit Design department*
  - Designed a PCB using Cadence Allegro for a 30 GHz biosensor.

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## EDUCATION

- Master of Science, **Robotics Engineering** May 2018  
Worcester Polytechnic Institute (WPI), Worcester MA, USA
- Bachelor of Technology, **Electronics & Communication Engineering** July 2016  
West Bengal University of Technology (WBUT), Kolkata WB, India

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## CONFERENCE PUBLICATIONS

- [1] M. P. Bowers, C. V. Harmalkar, A. Agrawal, **A. Kashyap**, J. Tai and M. Popovic, "Design and test of biologically inspired multi-fiber Hydro Muscle actuated ankle," 2017 IEEE Workshop on Advanced Robotics and its Social Impacts (ARSO), Austin, TX, USA, 2017, pp. 1-7, doi: 10.1109/ARSO.2017.8025200.
- [2] A. Pramanik, **A. Kashyap**, and S. P. Maity, "Study on sampling matrices for far-end image reconstruction by block compressed sensing," 2015 IEEE International WIE Conference on Electrical and Computer Engineering (WIECON-ECE), Dhaka, Bangladesh, 2015, pp. 346-349, doi: 10.1109/WIECON-ECE.2015.7443934.

## OPEN SOURCE SOFTWARE PROJECTS

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- **ROS2**

Status: ongoing

Navigation Stack package: navigation2\_dynamic

- Detecting obstacles in 2D LIDAR data by clustering, splitting, and merging operations.
- Classifying detected obstacles as *line* and *circle* obstacles for improved representation and tracking.
- Writing up documentation explaining how adjusting various parameters/thresholds influences output.