

# Sanjeev Kannan

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🌐 www.linkedin.com/in/kannansanjeev/

🔗 <https://sanjeev-k.github.io/Website/>  
</> [www.hackerrank.com/skannan2](http://www.hackerrank.com/skannan2)

🌐 <https://github.com/Sanjeev-K>

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## EDUCATION

**Worcester Polytechnic Institute (WPI), Worcester, MA**

Master of Science, Robotics Engineering

GPA: 4.00 / 4.00

May 2021 (Expected)

**Birla Institute of Technology and Science, Pilani, Goa, India**

B.E (Hons), Mechanical Engineering

GPA: 7.73 / 10.00

May 2016

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## SKILLS

**Programming** : C++/C, Python, MATLAB

**Tools** : ROS, Gazebo, CARLA, Git, OpenCV, Linux

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## IP/PUBLICATIONS

· **Towards finding the minimum time for graph exploration using multiple robots**

Sanjeev Kannan, Prajakta Surve, Leena Vachhani and Arpita Sinha

(Intend to submit at IEEE Robotics and Automation Letters (RA-L))

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## WORK EXPERIENCE

**Argo AI, LLC, Pittsburgh, PA (Remote)**

Software Engineering Intern, Motion Planning - Routing

May, 2020 – . Present

- Implementing a Tactical Planner to impact high-level route planning decisions
- Extended summer internship to work part-time over the fall semester

**IIT Bombay, Mumbai, India**

Senior Research Fellow - Autonomous Robots and Multi-robot Systems Lab

Aug. 2018 – Jul. 2019

- Developed and proved algorithm to find quickest graph coverage time for a decentralized multi-robot system
- Implemented and simulated proven algorithm on MATLAB

**Johnson Controls, Pune, India**

Design Engineer - Fan Group, Air Systems Engineering Division

Jul. 2016 – Jul. 2018

- Developed 3D CAD models and manufacturing drawings for exhaust fan models

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## PROJECTS

**Automatic Parking for non-holonomic constrained mobile robot**

Course Project for Grad course - Advanced Robot Navigation

Jan. 2020 – May. 2020

- Implemented motion-planning and control for an autonomous car using the Hybrid A\* algorithm
- Platforms used : C++, ROS, Gazebo, Husky 4-wheeled UGV

**Planning Algorithms Implementation and Visualization**

Feb. 2020 – Feb. 2020

- Programmed algorithms from scratch : A\*, DFS, BFS/Dijkstra, Weighted A\*, Greedy Best First Search
- Animation and code can be seen [here](#).

**Quadrotor Motion Planning**

Course Project for Grad course - Robot Dynamics

Aug. 2019 – Dec. 2019

- Created a path-planner module for a quad-rotor to navigate multiple goal points using the RRT-star algorithm
- Achieved obstacle avoidance by enlarging obstacles by robot size to treat robot as a point in the planning problem
- Developed and implemented unit tests to validate modules

**Motion Planning for assisted driving in an autonomous car**

Course Project for Grad course - Motion Planning

Jan. 2020 – May. 2020

- Implementing Lane Keeping, Lane Changing and Adaptive Cruise Control on an autonomous vehicle on CARLA simulator

**Controller Design for Path tracking in a Mobile Robot**

Course Project for Grad course - Robot Control

Aug. 2019 – Dec. 2019

- Implemented PID control and state estimation for navigating a Turtlebot 2 robot on both simulation and hardware

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## ACTIVITIES AND LEADERSHIP

- Chief Coordinator : Aerodynamics Club, BITS Pilani Goa Campus
- Stood first in the club level and third at the Area level Humorous Speech Contest at Toastmasters
- Mentored more than 5 members in public speaking and leadership roles at Toastmasters
- Formed soccer team at Johnson Controls and arranged practice sessions