

Vanshil Shah

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EDUCATION

- **University of Pennsylvania** Philadelphia, USA
MS in Mechanical Engineering with Robotics Specialisation | GPA 4.0/4.0 Aug. 2021 - May 2023
Relevant coursework: Machine Learning, Introduction to Robotics, Design of Mechatronic system
- **Institute of Technology, Nirma University** Gujarat, India
Bachelor of Technology in Mechanical Engineering | CGPA 8.12/10.0 Aug. 2015 - May 2019

PUBLICATIONS

- Prashant Kumar*, Sabyasachi Sahoo*, **Vanshil Shah**, Vineetha Kondameedi, Abhinav Jain, Akshaj Verma, Chiranjib Bhattacharyya, Vinay V. **“DSLRL : Dynamic to Static LiDAR scan Reconstruction using adversarially trained autoencoder”** (*Proceedings of the AAAI Conference on Artificial Intelligence 2021*)
- Unni Krishnan R Nair*, Anish Gupta*, D. A. Sasi Kiran, Ajay Shrihari, **Vanshil Shah**, K. Madhava Krishna **“Non Holonomic Collision Avoidance under Non-Parametric Uncertainty: A Hilbert Space Approach”** (*Proceedings of European Control Conference(ECC) 2021*)

WORK EXPERIENCE

- **ZF Friedrichshafen** Feb 2021 - June 2021
SDE, Machine Learning and Data Team *Varun Jain*
 - Made a framework for automating the Global Talent tracker using Microsoft Sharepoint API
 - Deployed the whole framework on Azure as a Function App for periodic updation
- **Indian Institute of Science(IISc), Bangalore** Nov 2019 - Sept 2020
Research Intern, Machine Learning Lab | Collaboration: Ati Motors *Sabyasachi Sahoo*
 - Integrated Google Cartographer SLAM algorithm with our model DSLR for improving navigation in a dynamic setting.
 - Devised a novel dataset generation pipeline to create a first of its kind LiDAR based static-dynamic frame dataset.
 - Achieved **4 times better reconstruction** on Chamfer Distance over state of the art baselines.
- **Robert Bosch Center for Cyber Physical Studies(RBCCPS), Bangalore** June 2019 - Nov 2019
Perception Team, MBZIRC 2020 | Collaboration: TCS Innovation Labs *Dr. Raghu Krishanpuram*
 - Benchmarked visual SLAM algorithms for facilitating quad copter autonomy in degraded environments *[Video]*
- **Defence Research and Development Organisation(DRDO), Bangalore** Jan 2019 - May 2019
Research Intern, Center for Artificial Intelligence and Robotics *Dr. Shubhashisha Sahoo*
 - Deployed the navigation stack on autonomous tracked robots used by Indian Defence Forces.
 - Imparted robust outdoor navigation capabilities by fusing GPS sensor data.

PROJECTS

- **MEAM 520: Pick and Place Challenge 2021**
 - Developed a modular library for facilitating dexterous manipulation of Franka Panda arm. *[Video](Hardware)*
[Video](Simulation)
- **Search and Rescue Snake Robot**
 - Fabricated a modular snake robot with the purpose of inspection in narrow crevices. *[Video](Hardware)*
[Video](Simulation)
 - The project reached the semi-finals of National Eyantra Robotics Competition

SKILLS

Deep Learning Framework: PyTorch
Simulator: Carla, Gazebo, V-REP

Languages: C++, Python
ROS

Software tools: Git, L^AT_EX, CMake
Misc: Azure