BHARATH VEDANTHA DESIKAN

Tempe, AZ 85281
(669) 343-6758
bharathvdesikan@gmail.com
bharathdesikan.com
github.com

Robotics Research Engineer

ABOUT ME

Robotics Research Engineer specializing in autonomous sampling, probabilistic planning, and Gaussian Process–based spatial modeling. Experienced in ROS2, Python, and simulation-driven evaluation of uncertainty-aware decision-making for real-world robotic systems. Research interests include informative path planning, non-stationary kernel design for dynamic environments, active 3D reconstruction using Gaussian Splatting, and deploying low-cost autonomous platforms for environmental monitoring.

SKILLS

Robotics & Planning

`ROS2/ROS1` / `SLAM` / `PX4 Autopilot` / `Informative Path Planning` / `Uncertainty-aware Planning` / `Autonomous Mobile Robots`

Math & ML

`Gaussian Processes` / `Kernel Methods` / `Probability Theory` / `Stochastic Processes` / `Linear Algebra` / `Machine Learning` / `Computer Vision` / `3D Gaussian Splatting`

Tools & Frameworks

`Python` / `Docker` / `Linux` / `Git` / `GPyTorch` / `scikit-learn` / `pyproj` / `LaTeX`

PUBLICATIONS

2026 — **Depth-Variance Guided Next-Best-View Planning for Active 3D Gaussian Splatting Reconstruction** — **IEEE CASE**
Bharath Vedantha Desikan et al. — *Under review*

2026 — **Low Cost ASV for High-Resolution Spatio-Temporal Aquatic Field Reconstruction via Dynamic Kernels** — **ICRA**
Rodney Staggers Jr*, **Bharath Vedantha Desikan***, Jnaneshwar Das (*equal contribution) **Results**

EXPERIENCE

01/2024 – 06/2024 — **Research Intern** — **Yokohama National University, Japan**
Capstone project in Dr. Shimono Tomoyuki's lab. Worked with UR manipulators. Transitioned bilateral teleoperation for dual manipulators to ROS2.
`ROS2` / `UR Manipulators` / `Teleoperation`

05/2023 – 06/2023 — **ROS2 Intern** — **Motherson Group**
Planned AGV switchover from PLC to ROS2. Integrated LiDAR sensors with ROS2 for SLAM-based mapping.
`ROS2` / `LiDAR` / `SLAM` / `AGV`

EDUCATION

2024 – 2026 — **M.S. Robotics & Autonomous Systems** — **Arizona State University**
CGPA: 3.71 | **Thesis:** Field Estimation and Adaptive Sampling under Positional Uncertainty

2020 – 2024 — **B.Tech Mechatronics & Automation** — **Vellore Institute of Technology, Chennai**

PROJECTS

Autonomous 3D-Printed Robot
4-person team building a fully autonomous car-like mobile robot.
`PX4` / `ROS2`

PX4 Parallel Sim Stack
Containerized PX4 SITL for parallel sim across Docker containers.
`Docker` / `PX4 SITL`

Remote Sim Portal
Web UI for spawning containers and launching sim pipelines remotely.
`Docker` / `Web`

GP Field Survey
Interactive site showcasing GP spatial reconstruction from aquatic field data.
`GPs` / `Visualization`