ATHUL KRISHNA

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PROFESSIONAL SUMMARY

Highly motivated Robotics Engineer (MTech 2026) with expertise in ROS2, autonomous navigation, motion control,

path planning, and real-time sensor processing. Skilled in USV/UUV systems, maritime AI decision-making,

3D simulation development, Linux, C++, Python, and embedded systems.

CORE SKILLS

Autonomous Systems: Navigation, Motion Control, Path Planning, SLAM, Sensor Fusion, Maritime Robotics.

Technical Skills: ROS2, Gazebo, MoveIt2, Unity, MATLAB/Simulink, RViz, URDF/Xacro, Linux, Git.

Programming: Python, C++, C, Embedded Systems, Real-Time Systems.

Simulation & Modeling: Blender, FreeCAD, SolidWorks, Digital Twin Development.

AI/ML: Decision Systems, Marine Environment Classification.

EDUCATION

MTech – Robotics/Embedded/CSE/EEE/IT (Expected 2026)

BTech – Engineering (Year of Completion: 20XX)

PROJECT EXPERIENCE

Autonomous Navigation Robot (ROS2 + LiDAR + Nav2):

• Built SLAM, obstacle avoidance, localization, and global planning.

• Developed custom Gazebo simulation environment.

Underwater UUV Simulation:

• Implemented PID and model-based controllers.

• Integrated sonar, IMU, and depth sensor processing.

AI-Based Decision System for Marine Robotics:

• Built AI/ML classification models for autonomous maritime decisions.

Robotic Manipulator Planning (MoveIt2 + OMPL):

• Designed URDF models and implemented RRT/PRM planners.

TECHNICAL EXPERIENCE

• Designed ROS2 architectures (nodes, QoS, actions, launch files).

• Integrated sonar, radar, GPS, and camera sensors.

• Developed communication systems for low bandwidth & high latency.

• Built 3D simulation assets using Blender, FreeCAD, SolidWorks.

• Performed simulation + field validation for robotics algorithms.

CERTIFICATIONS

• Robotics Specialization – Coursera

• ROS2 Fundamentals – The Construct

• MATLAB/Simulink for Robotics

• Embedded Systems & Control Systems

PROJECT LINKS

GitHub Portfolio: github.com/yourprofile