ADITHYA HARI

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EDUCATION

Master's in Autonomy and Robotics *August 2023 - December 2024*
University of Illinois, Urbana - Champaign
Coursework: Mobile Robotics, Artificial Intelligence, Autonomous Vehicle Systems, Intro to Digital Materials

Bachelor of Engineering in Mechanical Engineering *June 2019 - May 2023*
SSN College of Engineering, Chennai
Coursework: CAD, Design for Manufacturing, Mechanical Drives, Finite Element Analysis, Hydraulics Systems.

SKILLS

Design	SOLIDWORKS, ANSYS, Creo Parametric, CATIA, Fusion 360, Keyshot
Programming	Python, ROS, ROS2, C++, MATLAB, Git
Robotics	RViz, Gazebo, SLAM, ROS Industrial
Manufacturing	Lean Six-Sigma, 5S, Computer Numeric Control(CNC), FMEA

WORK EXPERIENCE

Mechanical Engineering Intern
Stanadyne India Pvt Ltd, India *July 2022 - August 2022*
- Supervised manufacturing of fuel injector nozzle done by injection molding at **320 deg Celsius** .
- Created CAD models by meticulous Geometric Dimensioning and Tolerancing (**GD&T**)
- Optimized procedures leading to a **5%** enhancement in production output and a **6.35%** reduction in material waste.

Mechanical Design Intern
Elite Techno Groups, India *July 2021 - August 2021*
- Designed a roll cage model using CAD software **SOLIDWORKS**, achieving a **20% weight reduction** while maintaining structural integrity.
- Utilized ANSYS to conduct stress analysis, ensuring a safety factor of 2.5.
- Performed vehicle suspension testing, focusing on Ackerman angles on **Lotus Shark**, resulting in a **15% increase** in cornering stability and a **10% improvement** in overall handling performance.

Student Researcher
Mechatronics and Automation Lab, SSN College of Engineering *April 2020 - March 2023*
- Developed a touch-based sensor prototype on 3D printed mouth braces for quadriplegia patients, ensuring **95% accuracy** in detecting subtle movements to navigate a wheelchair-like model effectively.
- Secured **1st Place** in hardware category in Smart India Hackathon - south regionals.

PROJECTS

1. GEM Autonomous Car *August 2023 - December 2023*
- Programmed a small Electric Vehicle to detect and follow a lane with a **minimum deviation of 10cms** by designing a pure-pursuit controller to generate waypoints and cancel background noise by color thresholding .

2. RTAB - vSLAM using Terresentia Robot. *October 2023 - December 2023*
- Executed RGB-D SLAM using recorded images from two data sequences captured by ZED cameras, achieving **90% mapping accuracy**
- Implemented a **ROS node** to extract co-ordinates of estimated and ground truth trajectories for precise analysis.

3. Design and development of cooling device for solar photovoltaic cell *March 2021 - May 2021*
- Built a cooling system for solar panels with organic phase change material **RT 42** and an aluminum heat sink.
- Achieved a **15°C** temperature reduction during peak sunlight, with a **conversion efficiency of 16 %**.

PUBLICATION

Intelligent system using flex sensor for assessment of Parkinson's disease
Published in International Journal of Scientific Research - DOI:[10.55041/IJSREM16522](#)