

NANDHINI MANIKANDAN

DATA ANALYST | TEXAS A&M UNIVERSITY - MSAE

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College Station, Texas

EDUCATION

Master of Science in Aerospace Engineering Texas A&M University, College Station, TX, USA	Aug 2022 - May 2024
Bachelor of Technology in Aerospace Engineering Amrita Vishwa Vidyapeetham, Coimbatore, India	Aug 2016 - May 2020

TECHNICAL SKILLS

- **Programming Languages:** C, C++, Python, HTML, CSS, R, MySQL
- **Frameworks & Libraries:** NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, PyTorch, OpenCV
- **Robotics:** ROS, Gazebo, MoveIt, TensorFlow Object Detection, Depth Perception, Computer Vision
- **Software and Tools:** MySQL, Tableau, Power BI, Excel, MATLAB, VS Code

PROFESSIONAL WORK EXPERIENCE

Graduate Research Assistant – Department of Industrial Engineering, Texas A&M University CS, TX Research Area: Human-Robot Interaction	Aug 2023 - May 2024
<ul style="list-style-type: none">• Spearheaded a human subject research evaluating cobot-assisted manufacturing workstation efficacy, analyzing 20 datasets over an 8-hour period, implementing safety protocols including restricted speeds and demarcated workspaces.• Investigated trust metrics in Human-Robot collaboration, using mixed-effect models to highlight a 25% increase in efficiency and a potential 30% decrease in idle time for cobot-assisted vs. manual-assembly sessions.	
Student Assistant – Department of Biomedical Engineering, Texas A&M University CS, TX	Jan 2023 - Aug 2023
<ul style="list-style-type: none">• Engineered an RNN that forecasts right ventricular volumes with 85% accuracy from cardiac MRI slices, facilitating efficient and consistent evaluation of right ventricular function for cardiac diagnostics and treatment planning.• Leveraged MATLAB and Python to analyze 2,000+ cardiac MRI images, detecting radiation-induced decline in left ventricular contractility and aiding in prompt detection of myocardial tissue changes through regional strain rates.	
Assistant System Engineer – TATA Consultancy Services Chennai, India	Oct 2020 - Jul 2022
<ul style="list-style-type: none">• Administered 1,000+ physical and virtual Windows servers, boosting performance and reliability, reducing downtime by 30% and maintaining a 95% success rate in resolving user-reported issues for seamless organizational functionality.• Enhanced internal workflows by implementing robust automation using PowerShell scripting, resulting in a 40% increase in task efficiency and substantial time savings for the team.	

RELEVANT PROJECTS

Gesture Recognition Using ROS Robotics - Project Link
<ul style="list-style-type: none">• Developed a hand gesture recognition system with OpenCV and Media Pipe, achieving 90% accuracy in video playback control. Integrated ROS for precise gesture-based YouTube control on a Pixel phone-equipped robot.
Coordinated Dance Routine with Survivor Buddies Data Visualization - Project Link
<ul style="list-style-type: none">• Collaborated with a 3-member team to engineer 4 Survivor Buddies, orchestrating a synchronized dance to mirror a selected song. Defined movement waypoints, setup ROS configuration, executed rviz simulations, and live demonstrations.
Cricket T20 World Cup Team Optimization Data Analysis - Project Link
<ul style="list-style-type: none">• Analyzed Cricket T20 data from ESPN, scraping statistics for 250+ players via Bright Data for an optimal 11-player team. Utilized Pandas for transforming, cleaning 10,000+ data points and built interactive Power BI dashboards.
Tableau-Powered Interactive Resume Data Visualization - Project Link
<ul style="list-style-type: none">• Designed an interactive Tableau-based resume with data visualization, boosting views by 30% and elevating interview call rates by 40% through improved information presentation.
Enhancing Human Engagement with Social Robots Robotics - Project Link
<ul style="list-style-type: none">• Directed a human-robot interaction project, utilizing ETH-XGaze for precise 3D facial and gaze tracking. Implemented eye tracking, voice interactions, and anthropomorphic features, enhancing user engagement by 50%.

CERTIFICATIONS

- Python for Machine Learning and Data Science Masterclass issued by **Udemy**.
- Deep Learning issued by **IIT, Madras**.
- Introducing Robotic Process Automation, by **LinkedIn**.

SOCIAL WORK

- Volunteered with Make a Difference, enhancing education for 100+ children in Indian orphanages and shelters.
- Elevated school engagement by 20% through strategic school zone PR oversight as an Eventide member at Anokha Techfest.