

# THIRESH S

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CHINNASALEM, TAMIL NADU - 606201, INDIA

## OBJECTIVE

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Innovative technologist with a passion for robotics, AI, and automation, seamlessly blending technology with creativity. Driven to develop groundbreaking solutions in industrial automation and intelligent systems while also crafting compelling narratives through storytelling. Seeking opportunities to collaborate on visionary projects that push the boundaries of technology and creativity.

## EDUCATION

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### Madras Institute Of Technology

06/2023 – 05/2027

B.E. Robotics and Automation, Chennai, India

CGPA: 7.62

### Tagore Matric Higher Secondary School

05/2023

Higher Secondary Education, Kallakurichi, India

Percentage: 94.3%

## PROJECTS

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### ROS 2 Ackermann Rover

Developed a simulated Ackermann-steered mobile robot in ROS 2 and Gazebo, featuring front-wheel steering and rear-wheel drive dynamics. Implemented Xacro for model definition and joint control using differential-to-Ackermann kinematics. Configured ROS 2 control plugins for steering and velocity controllers. Enabled navigation, path-tracking, and teleoperation testing in a realistic virtual environment.

### TRRR Manipulator Simulation in MATLAB Simulink

Developed a simulated four-link TRRR robotic manipulator with a controllable gripper using MATLAB and Simulink. Designed forward and inverse kinematics for precise end-effector positioning. Implemented joint motion control and dynamic response analysis using Simulink blocks. Verified smooth coordinated motion and grasping through real-time simulation and visualization.

### Rover with manipulator

Developed a mobile rover equipped with a hydraulic manipulator powered by a rotary-to-linear motor mechanism for precise motion control. Integrated microcontroller-based coordination for both rover mobility and arm actuation. The system enables high-torque, smooth, and accurate operations for material handling and exploration tasks in rough terrains.

### **AutoPark X**

Developed an intelligent parking system that uses sensors and automation to regulate vehicle entry and exit.

### **AquaSense**

A smart water control system using laser reflection and LDR technology to automatically stop overflow, ensuring efficient water management in homes, industries, and agriculture.

**Others:** Pathfollower Bot, WiFi-Controlled Bot, Gearless Power Transmission System

## **TECHNICAL SKILLS**

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**Design & Simulation Software:** AutoCAD, Fusion 360, SolidWorks, Proteus, CoppeliaSim, MATLAB Simulink

**Programming Languages:** Python, C, C++, Embedded C, MATLAB

**Editing Software:** Adobe After Effects, DaVinci, GoldWave, Canva

## **SOFT SKILLS**

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Communication, Out-of-the-box thinking, Adaptive problem-solving, Decision-making under pressure

## **ACHIEVEMENTS**

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**eYantra Robotics Competition** – Designed and simulated a balancing bot.

**National Science Day Exhibition** – Presented “AutoPark X” – an automated parking gate system with smart access control.

## **EXPERIENCE**

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### **Intern – Bonfiglioli Transmission Pvt Ltd**

11/06/2025 – 10/07/2025

Chennai, India

- Gained hands-on experience with industrial gear motors and automation systems.
- Assisted in PLC-based system diagnostics and preventive maintenance.
- Observed manufacturing and assembly line automation processes.