LKSHAY TYAGI

ROBOTICS ENGINEER & AI RESEARCHER

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OBJECTIVE

Enthusiastic and dedicated B.Tech student in Computer Science Engineering (Core) at SRM University Delhi NCR with hands-on experience in robotics projects, embedded systems, and control algorithms. Seeking an internship opportunity in robotics research or development to apply technical skills and contribute to innovative solutions.

EDUCATION

2024-2028

SRM UNIVERSITY DELHI-NCR

CODING LANGU.

- **C & C++**
- **PYTHON**
- **HTML & CSS**
- **BASICS OF JAVA**

SKILLS

- Project Management
- Public Relations
- Teamwork
- Time Management
- Leadership
- Effective Communication
- Critical Thinking

LANGUAGES

- English: Fluent
- German: Basics
- Hindi: Fluent

WORK EXPERIENCE

Web Development Intern - EduExpose

May 2024 – July 2024

- Completed a structured internship focusing on front-end development using HTML, CSS, JavaScript, and responsive design principles.
- Contributed to UI/UX improvements and developed modular components for EduExpose's internal web platforms.
- Gained hands-on experience with version control (Git) and collaborative workflows in a remote development team.

Research Trainee - PRAYAS 3.0 (IIT Mandi)

June 2025 – Present

- Selected for the prestigious PRAYAS 3.0 Program organized by IIT Mandi, focusing on Robotics, AI, and Machine Learning applications.
- Currently involved in developing autonomous robotic solutions integrating computer vision and ML algorithms.
- Working closely with academic mentors and peers on real-world innovation challenges.

Hackathon Participation (Various Events)

2023 – Present

- Actively participated in over 5+ national-level hackathons organized by major institutes and platforms like Devfolio and SIH.
- Gained valuable collaborative and technical experience despite not qualifying for final rounds.
- Explored domains including automation, assistive robotics, and AI-powered tools under competitive time constraints.

PROJECTS

Autonomous Drone (Personal Project)

2024 - Present

- Currently designing a GPS-guided quadcopter drone with autonomous waypoint navigation and object detection.
- Using Arduino, GPS module, and MPU6050 IMU for flight stabilization and navigation.
- Planning to implement OpenCV for visual tracking and obstacle avoidance using Python.

Underwater Submarine Bot (Ongoing Personal Project)

2025 - Present

- Developing a tethered underwater robot focused on depth control, live video transmission, and waterproofing.
- Working on sealed enclosures for electronics, buoyancy stability, and real-time camera integration.
- Aiming to complete a functional prototype for testing in controlled water environments.

Personal Robotics Projects

2023 - Present

- Built Bluetooth-controlled car, obstacle-avoiding robot, and other beginner bots using Arduino.
- Self-taught in embedded systems, sensor logic, and circuit design using Arduino IDE.

Maze-Solving Robot (Academic Project)

2024 - 2025

- Developed a maze-solving robot using IR sensors and C++, applying a right-hand wall-following algorithm.
- Built the robot as part of a university coursework project; optimized sensor placement for accurate navigation.
- Gained practical experience in circuit debugging, real-time control, and teamwork.

Smart Trash Collector Robot

2023 – 2024

- Developed an autonomous robot for campus use that detects and collects trash using ultrasonic sensors and servo motors.
- Controlled via Arduino with Bluetooth override functionality.
- Collaborated in a team to integrate mechanical design and embedded software.

Mini RADAR System

JUNE - 2024

- Created a basic RADAR-like system using an ultrasonic sensor mounted on a servo motor platform.
- Used Arduino and Processing IDE to visualize nearby object positions in a 180-degree sweep.
- Demonstrated obstacle detection and spatial mapping in real time.

Smart Irrigation System

DECEMBER - 2023

- Developed an automated irrigation system using soil moisture sensors and Arduino.
- Enabled pump activation only when moisture fell below threshold, conserving water resources.
- Added an optional GSM module to receive alerts and control remotely via SMS.

Obstacle-Avoiding Robot

MAY - 2023

- Designed a robot using ultrasonic sensors to detect and avoid objects while moving autonomously.
- Calibrated sensor range and response timing for indoor navigation.
- Used this as a stepping stone to understand basic automation logic.