Final-year IT student passionate about intelligent robotics, embedded systems, and AI/ML. Proficient in Python, ESP32, and LLM integration, with hands-on experience building autonomous systems through academic and personal projects. Focused on bridging theory with real-world implementation.

Shivansh Ghelani

Intern - Trainee

- Gandhinagar, Gujarat, India
- +91 8980811621
- shivansh.ghelani@icloud.com
- Shivansh-Portfolio

Languages

English	**Hindi**	**Gujarati**
Fluent	Fluent	Native

Education

L.D.R.P-ITR
Information Technology
7.00 SPI
May 2025 Present(Pursuing)
Bachelor's of Engineering (B.E)
- LDRP-ITR

Swaminarayan Dham International School
Science -GHSEB Board
65.5%
March-2022
Higher Secondary Examination

Swaminarayan Dham International School
ICSE Board
86.7%
March-2020
Secondary Examination

Profiles

- ShivanshGhelani
- Shivansh Ghelani
- ShivanshGhelani

Skills

Programming Languages
Python | C++ | ESP32 | FastAPI | OpenCV | Flask | ROS2

Machine Learning & AI
Transformers, LLMs (Groq, Hugging Face), LangChain OCR (Tesseract, LayoutParser), Speech Recognition (Wav2Vec, Whisper) Text-to-Speech (Coqui, TTS Transformers), NLP tasks (translation, summarization)

Computer Vision
OpenCV, image preprocessing, lane detection, document layout analysis Real-time camera integration for robotic vision and OCR

Embedded Systems & Robotics
ESP32, ESP32-S3, Arduino Uno/Nano 33 BLE Sense Mecanum wheel control, PID tuning, IR sensor arrays, ultrasonic modules Line following, obstacle avoidance, voice-controlled navigation

ROS/ROS2, SLAM, Gazebo

Analytical & Problem Solving
Strong logical reasoning and debugging mindset Passionate about optimizing systems through iteration and feedback Able to break down complex technical challenges into solvable parts

Communication & Collaboration
Clear technical communicator — in documentation, code comments, and presentations Experience working collaboratively on GitHub with feedback loops and version control Comfortable explaining AI and robotics concepts to non-technical audiences

What I Can Bring to Your Team

- **Technical Versatility:** Proficient in Python, FastAPI, machine learning, embedded systems (ESP32, Arduino), and frontend technologies. I can adapt to both backend and robotics-related challenges.

- **Problem-Solving Mindset:** I proactively identify problems and design scalable, efficient solutions—whether it's gesture-controlled systems or semi-autonomous robots.

- **AI + Robotics Synergy:** With a strong interest in autonomous vehicles and smart robotics, I bring the ability to integrate AI models into real-world hardware systems.

- **Continuous Learner:** I regularly take advanced courses (e.g., FastAPI, Data Science, ML) and apply them to personal and academic projects.

Projects

4WD Semi-Autonomous Rover   **January 2024**

Robotics Project

🔗 Github Repo

Semi-autonomous Mecanum-wheel robot with voice-controlled and manual driving modes. Equipped with IR sensors, ultrasonic range detection, and computer vision for Gesture Based hand Controlled

ESP32, PID, Ultrasonic, IR Sensors, Computer Vision, Mecanum Wheels, Voice Control, Robotics

Myra AI Assistant (LLM-Powered)   **March 2024**

AI Chatbot

🔗 Myra-Chatbot

AI-powered assistant built using Groq LLM to handle tasks like summarization, document translation, neural speech synthesis, and OCR. Built modular tools and deployed as a seamless chatbot.

LLM, Groq, Chatbot, Translation, Summarization, AI Tools, FastAPI, Python

Smart OCR System   **February 2024**

OCR Tool

🔗 OCR-Github Repo

Developed a scalable OCR web application, enabling automated extraction of key data points from documents; the application now supports 5+ languages and handles 1M+ data points annually.

OCR, Text Extraction, Tesseract, FastAPI, Translation, Summarization, Python, Computer Vision

Neural TTS + Speech Recognition   **MAY-2025**

Web Service

🔗 Myra-TTS

Text-to-Speech and Speech-to-Text web system with automatic language detection, male/female voice options, and distinct robotic voice characteristics for specialized applications. Integrated with real-time speech recognition for AI assistant and accessibility tools.

Text-to-Speech, Speech-to-Text, TTS, STT, AI, Voice Assistant, Natural Language, Python, FastAPI

Translation Service (Myra Translation Module)   **APRIL 2025**

Web Service

🔗 Translation Web Service

Multilingual translation module integrated into Myra Assistant. Supports document-level and sentence-level translations across major global and Indian languages. Designed for accessibility, educational use, and intelligent document understanding.

Translation, Multilingual, AI, LLM, Language Detection, FastAPI, Myra, Python, Web App

VIOR – Video/Image Object Recognition and Scenario Description   **January-2025**

Computer Vision Project

🔗 VIOR-GithubRepo

Developed a system for real-time video and image object recognition with scenario description capabilities, leveraging deep learning models to identify and interpret objects in diverse environments.

Gesture Based Volume Control   **MAY-2024**

Computer Vision Project

🔗 GBVC

Implemented a system to control audio volume using hand gestures detected through sensors or camera input, enabling touchless and intuitive volume adjustment.

Volunteering

LDRP-ITR ,KSV **February-2024 and February-2025**
Xenesis -Stage Community Volunteer Gandhinagar

Volunteered as Stage Community Volunteer, assisting in event organization, stage management, and supporting community engagement activities to ensure smooth event execution.

LDRP-ITR ,KSV **January-2025**
Ideathon Event-Lead Volunteer Gandhinagar

Led and coordinated volunteer activities at LDRP-ITR, KSV, managing event logistics, volunteer teams, and communication to ensure smooth execution of events and initiatives. Acted as a key point of contact between the organization and volunteers, enhancing engagement and collaboration.

Certificates

MissionChandra – 2nd Runner Up **October 2023**
SAC-I.S.R.O ,D.O.T and GUJCOST Organized Gandhinagar

Project - Design and Working model of launch vehicle

2nd Runner Up in the final round of MissionChandra competition by designing and building a functional launch vehicle model.

NPTEL Certificate – Python with Data Science **August -2024**
NPTEL Gandhinagar

Completed NPTEL course on Python for Data Science, covering data analysis, visualization, and manipulation with Python libraries. Scored 67%.

MyEquation ROBO-AI **30th July - 20th Sept ,2024**
MyEquation Online-Workshop
🔗 <u>MyEquation</u>

Completed 45-day intensive training on AI and Robotics, covering AI model development, embedded systems, and robotics applications.

Science Fair **February 2024 & 2025**
Organized by KSV Gandhinagar

Participated in the Science Fair a robotics-based project showcasing an intelligent navigation system.Demonstrated skills in real-time obstacle avoidance, sensor integration, and voice-based control in autonomous vehicles.
Science Fair 2024 : Line Following Robot
Science Fair 2025 : 4WD Robo-Car with Manual, VoiceControlled, ComputerVision Based Gesture Controlled

MegaHack Hackathon **March-2024**
24-Hour Hackathon Palghar

Awarded certificate for participation in MegaHack, demonstrating skills in hackathon challenges, problem-solving, and collaborative development.

Project - Automatic License Plate Recognition and Parking System

MyEquation ROBO-Coral **24th June ,2024**
MyEquation Online-Workshop
🔗 <u>MyEquation</u>

Finished foundational 3-day robotics training focusing on core concepts and practical implementations in robotics.

Udemy-Certifications

Data Science and Machine Learning Bootcamp with Python   **December-2024**
Jose portilla, Pierian Training

Completed a comprehensive course covering essential concepts of Data Science and Machine Learning using Python. Gained hands-on experience with statistical analysis, data visualization, linear regression, decision trees, and various ML algorithms through real-world projects.

Python with Flask – Web Development Framework   **January -2025**
Horizon Tech

Completed a comprehensive course on Python with Flask, including RESTful routing, templating with Jinja2, SQLAlchemy integration, and deployment of web applications.

FastAPI – The Complete Course   **March-2025**
Udemy

Completed a comprehensive course covering FastAPI from fundamentals to advanced concepts. Learned to build high-performance, production-ready APIs with asynchronous Python, Pydantic models, dependency injection, OAuth2 authentication, background tasks, database integrations (SQLAlchemy), and deployment strategies for real-world web applications.