



Satyam

Python and IoT Developer

Bachelor of Technology

in Computer Science and Engineering

I. K. Gujral Punjab Technical University, Amritsar Campus

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Portfolio Website

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GitHub

LinkedIn

SUMMARY

Dedicated Python and IoT Developer with a strong foundation in sensor integration, microcontroller programming, and real-time data processing. Experienced in building smart systems using ESP32/ESP8266, cloud platforms, and Python-based automation. Proficient in developing scalable IoT solutions, visualizing data, and delivering efficient, hardware-software integrated projects for real-world applications.

PROJECTS

•SafeHelm: Smart Safety Helmet

Mar 2025 – May 2025

- Designed an intelligent helmet to address road safety by detecting alcohol consumption and crash incidents.
- Integrated ESP32 with MQ-3 (alcohol sensor), MPU6050 (accelerometer), and GSM for real-time alerts.
- Implemented relay-based ignition lock to prevent drunk driving and enhance rider security.
- Optimized system for low power usage and high response speed in critical situations.
- Calibrated sensors and ensured accurate detection through hardware-software integration.

•ESP-Home: Offline Automation

May 2025 – Ongoing

- Designed an offline smart home system to eliminate internet dependency for appliance control.
- Integrated ESP32-CAM and DevKit V1 using ESP-NOW protocol for peer-to-peer communication.
- Implemented touch-based switching and relay modules to control devices over a local network.
- Optimized for fast and secure command execution with modular and scalable architecture.
- Addressed privacy and connectivity issues by enabling fully local operations.

•WeatherTrack: IoT Station

Jan 2025 – Feb 2025

- Developed a weather station to solve the problem of remote environmental monitoring.
- Integrated DHT11, BMP180 sensors with ESP8266 to collect temperature, humidity, and pressure data.
- Configured real-time data display on LCD and cloud transmission using Blynk IoT platform.
- Implemented Python scripts for data logging, trend visualization, and alerts using Matplotlib.
- Enabled timely notifications for abnormal weather changes to support early action.

TECHNICAL SKILLS

- **Programming Knowledge:** Python, C/C++, Java, ESP32, Arduino, Sensor Integration, GSM/GPS, Relay Control
- **Tools and Libraries:** Jupyter, VS Code, Power BI, PyTorch, scikit-learn, Pandas, NumPy, OpenCV, MySQL
- **Other Skills:** Versatility, Problem Solving, Communication, Team Collaboration, System Design, Hardware Integration, Data Visualization

EDUCATION

Degree	Institute	Board / University	CGPA/Percentage	Year
B.Tech CSE	IKGPTU Amritsar Campus	IKGPTU, Kapurthala	7.50 (Till 5th Sem)	2022-2026
Senior Secondary	GSSSS Majitha	PSEB	94.0%	2022
Matriculation	GSSSS Naushehra	PSEB	97.0%	2020

INTERNSHIP

• IBM SkillsBuild

June 2024 – August 2024

Data Analyst Intern

Remote

- Analyzed 10,000+ historical sales data points to identify key trends and customer behavior patterns.
- Implemented ML models (Random Forest, Gradient Boosting) with 85% accuracy to forecast sales and optimize inventory.
- **Technologies Used:** Python, Pandas, NumPy, scikit-learn, Matplotlib, Seaborn.

• PHD Chamber of Commerce

December 2024

Team Lead - PITEK 2024

Amritsar, Punjab

- Led a team of 25 interns and coordinated event logistics, including scheduling and venue management.
- Managed VIP hospitality and facilitated interactions with celebrities, ministers, and dignitaries.
- Demonstrated leadership, adaptability, and teamwork in a high-pressure environment.

CERTIFICATIONS

- **AI/ML for Geospatial Data Analysis (2023)** Indian Space Research Organisation (ISRO)
- **Python for Data Science (2024)** IBM

POSITIONS OF RESPONSIBILITY

- **Student Coordinator**, Training & Placement Cell, IKGPTU Amritsar
- **President**, Technoverse (Technical Club), IKGPTU Amritsar
- **Cadet Sergeant**, 2 PB Air SQN NCC Amritsar, National Cadet Corps

Apr. 2024 – Present

January 2024 – Present

September 2023 – Present

Last updated: June 22, 2025