# Ayush Sahu

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Portfolio

## EXPERIENCE

**•AxoryAI**                                              *June 2025 - Present*
*Software Developer Intern*                                         Remote

- Developed and deployed the backend infrastructure for a deepfake detection system, integrating a machine learning model using FastAPI and Python.
- Designed and implemented RESTful APIs to serve the ML model, ensuring scalability and secure access via token-based authentication.
- Built a Python SDK to allow seamless client-side integration, enabling third-party developers to easily utilize the deepfake detection service.
- Implemented Supabase with SQL queries to manage user authentication, store processing results, and log usage analytics.
- Dockerized the application for smooth deployment and scalability; deployed services on AWS EC2, optimizing performance on GPU-enabled instances.

**•Alkeynes Global Solutions INDIA LLP**                  *May 2024 - July 2024*
*Frontend Developer Intern*                                  New Delhi(hybrid)

- Gained exposure to UI/UX design workflows using Figma while working on internal prototypes and client concepts.
- Contributed to frontend adjustments for a client website built with PHP, collaborating with senior developers to implement new features.

**• Flaredge**                                           *August 2024 - Present*
*Developer*                                                    Tirupati, India

- a personal portfolio and freelancing platform to showcase past web development work and attract clients.
- Designed and developed responsive websites for clients using React, Firebase, FastAPI, and other modern web technologies.
- Collaborated directly with clients to understand requirements, deliver custom solutions, and provide ongoing technical support.
- Managed deployment, domain setup, and performance optimization using tools like Netlify, Firebase Hosting, and AWS EC2.

**•Layer Build Private Limited**                          *Dec. 2023 - Feb. 2024*
*Software Developer*                                              IIT tirupati

- Developed a GUI-based application using Qt Designer and C++ to automate road-test report generation by inputting various highway material test data.
- Integrated the wkhtmltopdf library to export data as professional-grade PDFs, streamlining the report generation process and minimizing manual errors.

## PROJECTS

**•Accent Recognition Using CNN & MFCCs**                        *July 2025*
*Built a deep learning system to detect the speaker's native accent (Arabic, Mandarin, English) from voice audio*   GitHub

- **Tools & technologies used**: Python, TensorFlow (Keras), Librosa, MFCC, Matplotlib
- Developed a modular pipeline for audio preprocessing, MFCC feature extraction, model training, and evaluation.
- Trained a CNN to classify speaker accents with high accuracy using carefully filtered audio samples.
- Designed data preprocessing  feature extraction workflows (MFCC) and visualized trends using Matplotlib.

**•Data Warehousing & ETL Pipeline Project**                   *August 2025*
*Personal project implementing a three-layer ETL architecture for CRM and ERP datasets.*   Github

- **Tools & technologies used**: SQL Server, T-SQL, Data Warehousing Concepts
- Designed and implemented a **three-layer data warehousing architecture** (staging, integration, presentation) for structured CRM and ERP datasets.
- Developed SQL scripts for **data cleaning, transformation, and surrogate key generation** in the integration layer.
- Created dimension and fact views in the presentation layer to enable analytical queries for customers, products, and sales.
- Applied **ETL best practices** including data validation, deduplication, and referential integrity checks.

**•Tirutsava Website** *November 2024*

*Developed for my college's annual techno-cultural fest, Tirutsava* <span style="color:blue">Link</span>

- **Tools & technologies used**: Next.js, FastAPI, Razorpay, Tailwind CSS, Docker
- Played a key role in both frontend and backend development of the website, ensuring a seamless and user-friendly experience.
- Designed and implemented event registration system allowing users to sign up for multiple events efficiently and integrated Razorpay for secure and smooth payment processing, enabling real-time transaction tracking.
- Collaborated with a multidisciplinary team to ensure timely delivery and alignment with event requirements.

**•Mentor Data Web Crawler** *March 2025*

*Developed web crawler to extract mentor information using language models.* <span style="color:blue">Github</span>

- **Tools & technologies used**: Python, Crawl4AI, LLM (GROQ), CSV
- Built a highly efficient crawler leveraging asynchronous programming with Crawl4AI to scrape mentor data from websites.
- Used LLM-based parsing to structure unstructured data and exported results to CSV for data cleaning, transformation and analysis.

## TECHNICAL SKILLS

- **Programming:** C/C++, Python, JavaScript

- **Data Analytics:** SQL, MongoDB, Basic Machine Learning, Pandas, NumPy, Data Visualization (Matplotlib, Seaborn), LangChain.

- **Web Technologies:** React, Nodejs, Express, MongoDB, Flask, FastApis, Firebase, Bootstrap, CI/CD, DSA.

- **Tools Platforms:** Git, Docker, AWS, Heroku, Firebase

## POSITIONS OF RESPONSIBILITY

**•Core Member, Web Development Team / Tirutsava** Collaborated with a team to design and develop the official event website enhancing user engagement and providing essential information. *2024*

**•Co-coordinator, NavGati, Automobile Club:** Head of Event Management Team *Present*

**•Core member, Creative cell committee/Tirutsava:** Collaborated with a team to decorate our college. *2023*

## EDUCATION

| Degree/Certificate | Institute/Board | CGPA/Percentage | Year |
|---|---|---|---|
| B.Tech. | Indian Institute of Technology, Tirupati | 7.14 | 2022-2026 |
| Senior Secondary | Sardar Patel Inter College Kanpur | 90.0% | 2021 |
| Secondary | Sardar Patel Inter College Kanpur | 89.5% | 2019 |