

Akash Swain

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SUMMARY

Results-driven AI/ML Engineer and Full Stack Developer with 5+ years of experience. Currently working at Tata Technologies (deputed at Tata Motors), delivering high-impact solutions using LangChain, Agentic AI, LangGraph, NLP, and Generative AI. Skilled in end-to-end project delivery, automation systems, intelligent dashboards, and real-time data processing.

EXPERIENCE

- Developed an AI-powered query assistant using **LangChain**, **LangGraph**, and **Agentic AI**. It connects with multiple project databases to answer user queries in **natural language**, automatically generates **analytical graphs**, provides **Excel exports**, and handles **email-based requests** with minimal human input.
- Developed a unified portal to manage daily, weekly, and monthly QA reports.
- Consolidated data from multiple quality systems into a single platform.
- Automated **trend analysis**, **abnormality detection**, and **QRM deck generation**.
- Implemented **dashboard-based reviews** for better visibility.
- Added a **smart search** feature for quick project data access.

Solutions Developer

Tata Technologies (Client: Tata Motors)

April 2022 – Present, Pune, India

- Worked on Python-based AI/ML and Generative AI projects for Tata Motors, using LangChain, LangGraph, LLMs, NLP, and agentic AI to build intelligent automation solutions.
- Leading development of AI/ML systems, dashboards, and data intelligence tools.
- Architecting advanced solutions using LLMs and LangChain for internal business units.
- Developing NLP and Agentic AI systems for real-time query resolution.

Full Stack Developer

Silicon Techlab Pvt. Ltd.

Feb 2020 – March 2022, Bhubaneswar, India

- Developed modules for student fee and academic systems.
- Worked with Laravel and Python-based projects with payment gateway integration.

PROJECT

AutoQuery AI – Intelligent Issue Query Assistant

- Developed an AI-powered query assistant using **LangChain**, **LangGraph**, and **Agentic AI**.
- Connected multiple project databases to enable **natural language query handling**.
- Automated **analytical graph generation**, **Excel exports**, and **email-based workflows**.
- Streamlined **issue resolution** and improved overall query response efficiency.

Online Skill Assessment Portal

- Designed an **AI-driven assessment platform** using **React**, **Flask**, **LangChain**, and **Generative AI**.
- Implemented **AI-based question generation**, **automated evaluation**, and **feedback summaries**.
- Enabled **role-based management**, **result analytics**, and **certificate automation**.
- Reduced manual evaluation efforts and improved accuracy in candidate assessments.

KATS Portal – Key Account Tracker System

- Developed a **web-based system** using **Python**, **Flask**, **MySQL**, and **Generative AI** to manage and track key customer accounts.
- Designed to enhance **customer relationships**, optimize **sales and service performance**, and support **business growth**.
- Integrated **Generative AI** to detect and resolve **duplicate issues**, improving data accuracy and reducing manual effort.
- Created **heat maps** to visualize account activity, performance, and engagement trends.
- Contributed to **requirement gathering and planning**, ensuring smooth implementation and alignment with business needs.

Integrated Quality Management System (IQMS)

- Developed a unified portal to manage daily, weekly, and monthly QA reports.
- Consolidated data from multiple quality systems into one centralized platform.
- Automated trend analysis, abnormality detection, and QRM deck generation.
- Built interactive dashboards for better visibility and faster decision-making.
- Added a smart search feature for quick access to project-specific data.

- Improved overall reporting efficiency and real-time monitoring for QA teams.

Launch Quality Operating System (LQOS) & Audit Management

- Developed a **web-based tracking platform** using **Python, Flask, and MySQL** to digitize launch quality deliverables.
- Integrated **real-time monitoring** and **automated data capture** for each vehicle program.
- Enabled **early issue detection** to support proactive risk mitigation and on-time vehicle launches.
- Centralized all **LQOS deliverables** for improved accountability and seamless audit management.
- Reduced **project delays** and **IPTV** occurrences through better visibility and data-driven insights.

Medicaps

- Developed a **web-based student fee module** using **Python, Flask, and MySQL**.
- Integrated a **secure payment gateway** for online fee collection and real-time transaction tracking.
- Automated **invoice generation, payment notifications, and receipt management**.
- Improved payment transparency and reduced manual processing for finance teams.

Awes

- Built a **web application** using **PHP (Laravel)** for managing student timetables, academic reports, and fee records.
- Automated **report generation, attendance tracking, and payment workflows**.
- Unified data and communication between students, faculty, and administration.
- Improved efficiency and data accuracy across academic operations.

Chatbot for EOD System (NLP)

- Developed an **NLP-based chatbot** using **Python, Flask, and NLTK** to automate **End-of-Day (EOD)** report handling.
- Implemented **auto mail fallback** to ensure report delivery when chat responses failed.
- Enabled **dynamic Q&A management** through an **admin panel**, allowing non-technical users to update chatbot responses.
- Improved internal communication and reduced manual effort in daily reporting.

Automatic Attendance System (Face Recognition)

- Developed an **automated attendance system** using **Python, OpenCV, and Machine Learning** for **real-time face recognition**.
- Trained a **custom facial recognition model** to accurately detect and mark attendance from live camera feeds.
- Integrated a **Flask-based interface** for easy management of student records and logs.
- Reduced manual attendance time and eliminated errors through **AI-driven automation**.

Handwritten Digit Recognition

- Built a **Machine Learning model** using **Python, TensorFlow, and OpenCV** to recognize handwritten digits from images.
- Preprocessed input images with **image processing techniques** for noise removal and normalization.
- Trained and tested the model on the **MNIST dataset**, achieving high prediction accuracy.
- Deployed the model using a **Flask web interface** for real-time digit recognition.

EDUCATION

B.Tech in Computer Science Engineering

Centurion University of Technology and Management (CUTM) • Bhubaneswar • 2020 • 8.17 CGPA

12th

S.L.A. College, Godipada • Odisha • 2016

10th

N.H.S, Bhaliadihi • Odisha • 2014

SKILLS

Python, PHP, Laravel, Django, JavaScript, C

Generative AI, LangChain, LangGraph, NLP, Machine Learning, Deep Learning, Computer Vision

PostgreSQL, MySQL

FastAPI, Flask, React.js, Streamlit

Power BI, Metabase

HTML5, CSS3, JavaScript, jQuery, Bootstrap

English, Hindi, Odia
