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

- · Leading development of AI/ML systems, dashboards, and data intelligence tools.
- $\cdot \ \text{Architecting advanced solutions using LLMs and LangChain for internal business units}.$
- Developing NLP and Agentic Al 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.
- $\boldsymbol{\cdot}$ Connected multiple project databases to enable $\boldsymbol{natural\ language\ query\ handling}.$
- $\cdot \ \text{Automated } \textbf{analytical } \textbf{graph } \textbf{generation}, \textbf{Excel } \textbf{exports}, \textbf{and } \textbf{email-based } \textbf{workflows}.$
- $\boldsymbol{\cdot}$ Streamlined \boldsymbol{issue} $\boldsymbol{resolution}$ and improved overall query response efficiency.

Online Skill Assessment Portal

- $\cdot \ \mathsf{Designed} \ \mathsf{an} \ \mathbf{AI-driven} \ \mathsf{assessment} \ \mathsf{platform} \ \mathsf{using} \ \mathsf{React}, \\ \mathsf{Flask}, \\ \mathsf{LangChain}, \\ \mathsf{and} \ \mathsf{Generative} \ \mathsf{AI}.$
- · 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.
- $\cdot \ \, \text{Contributed to } \textbf{requirement gathering and planning}, ensuring smooth implementation and alignment with business needs.$

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.
- $\boldsymbol{\cdot}$ 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.
- $\boldsymbol{\cdot}$ 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.
- \cdot 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.
- $\cdot \ \text{Preprocessed input images with } \textbf{image processing techniques} \ \text{for noise removal and normalization}.$
- · 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) \cdot Bhubaneswar \cdot 2020 \cdot 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