Swapnil Tukaram Mane

stm2212@gmail.com | +1(607)232-1068 | Portfolio | Linkedin/-swapnilmane-/ | GitHub/SwapnilMane22

SUMMARY

4+ years of software engineering experience delivering production-ready solutions, building web/mobile applications, architecting scalable ETL pipelines, and agentic AI workflows, complemented with legacy SAP ABAP, S/4HANA automations

PROFESSIONAL EXPERIENCE

Asearis Data Systems Inc., *Software Engineer* July 2025 - Present

- Led the multiplatform client modernization, rebuilding 60% of the mobile and desktop applications to enhance user experience while optimizing the Java backend to support new workflows
- Developed a Rust microservice for the LLM and chatbot inference to ensure 99% system availability and distribute the workload from the main server
- Engineered the token tracking workflow for monetization, implementing the core business logic for processing 1M+ daily tokens and introduced strict code reviews, reducing 30% of bugs to elevate platform-wide code quality

Sitewiz, Inc., *AI Engineer* Aug 2025 - Sep 2025

- Resolved state-management failures in AutoGen multi-agent workflows by standardizing AWS S3 data serialization, ensuring reliable cross-agent data handoffs and downstream object retrieval
- Modernized the backend infrastructure by deprecating legacy Vertex AI resources, reducing monthly cloud expenses by $16,000 and saving an estimated 5+ hours of weekly troubleshooting
- Conducted technical due diligence to realign cloud strategy and established production-grade backend services, transforming experimental features into stable, reliable infrastructure for an enterprise launch

Bridge Green Upcycle Corp, *Software Engineering Intern* Dec 2023 – Dec 2024

- Established a PySpark ETL pipeline to ingest and process 3 million+ battery samples per unit, applying physics-based feature extraction for real-time battery State of Health (SOH) analysis and reducing execution runtime by 60%
- Synthesized hybrid LSTM-DNN models for battery health prediction, with 5.7% MAE, enabling failure forecasting
- Streamlined Tableau dashboards with Python to visualize battery analytics, supporting the growth for the Series A launch

LTIMindtree Ltd. (formerly Larsen & Toubro Infotech Ltd.), *Software Engineer* Aug 2020 – Jul 2023

- Created an NLP pipeline in Azure ML Studio for 900K+ IT tickets using word embedding and TF-IDF vectorization
- Resolved severe class imbalance through stratified sampling, SMOTE oversampling, and class-weighted Logistic Regression & Random Forest models, driving 66% accuracy on a highly skewed dataset
- Embedded real-time inference via Azure ML endpoint with RLHF for the ticketing app to boost model generalization
- Programmed a Python/Tkinter lookup tool with OpenCV, Tesseract OCR & MS Excel, cutting search time by 67%

TECHNICAL SKILLS

Languages: Python, SQL, Java, JavaScript, Rust, Kotlin, SAP ABAP

Frameworks & Runtimes: Flask, React, Node.js, Django, FastAPI

AI, GenAI & Data: PyTorch, PySpark, TensorFlow, scikit-learn, Ollama, OpenCV, AutoGen

Cloud Technologies: Azure ML, Amazon Web Services (AWS), Google Cloud Platform (GCP), Docker

Tools: Android Studio, MATLAB, Git, GitHub, Jupyter Notebook, CI/CD, NI LabView

PROJECT EXPERIENCE

Multi-agent LLM text-to-SQL, (GitHub) Jun 2025

- Developed a multi-agent Text-to-SQL system using Ollama LLMs and the AutoGen framework to orchestrate collaborative agents that convert natural language queries into optimized SQL, using Bird.dev database and tested on MySQL

Conversational ChatBot, (Demo) Mar 2025

- Deployed a personalized AI chatbot for a portfolio website using the MERN stack & fine-tuning LLM models and using contextual retrieval augmentation with vector-enabled relational database

Movie Recommendation System, (GitHub) Feb 2025

- Prototyped a movie recommender using TF-IDF and SBERT with Python, and Sentence Transformer, leveraging feature engineering and semantic similarity on the Kaggle Movies Dataset

Thought to Text Conversion Using Deep Learning, (Publication) Mar 2020

- Utilized MATLAB and Python for EEG signal processing and trained a supervised learning model to recognize neural activity patterns, achieving 59% accuracy in thought-to-text classification under predefined test conditions

EDUCATION

Binghamton University, Thomas J. Watson College of Engineering and Applied Science Aug 2023 - May 2025
Master of Science in Computer Science