

# Swarup Saha

Date of birth: 16/12/1991

Nationality: Indian

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## Profile

### Technical Lead | Full Stack Developer | AI/ML Engineer

11+ years of experience in architecting and delivering scalable web and AI solutions across industries. Hands-on expertise with the MERN stack, LangChain, Azure OpenAI, and LLM-based chatbot systems. Adept at building cloud-native APIs, managing agile teams, and driving innovation through data-driven development.

## Technical Skills

Node.js, Express.js	React.js, Redux, Next.JS	JavaScript, TypeScript	Angular.js, Angular
MongoDB	PostgreSQL, MySQL	Python, Flask	Machine Learning / DL
GenAI, Agentic AI	LangChain, LangGraph, Crew AI, LangSmith	MongoDB Atlas, PGVector	HTML, CSS, SCSS
Tailwind, Material CSS	AWS, Azure, Nginx	Git, Docker, Jenkins	Agile Methodology

## Work Experience

07/2023 – present  
Bengaluru, India

### Technical lead

#### Trigent Software Pvt. Ltd.

##### PlanITRoI (Refurbished Laptop Price Prediction & Specification Extraction):

- Designed **Microservices** based **APIs** using **Node.js**, **Python**, and **PostgreSQL**, enabling a modular and scalable data pipeline for AI-driven analysis.
- Designed and implemented an **Event-Driven Architecture** using **Azure Queue Service** to decouple services & streamline asynchronous task management for the web scraping pipeline, improving processing speed & reducing server load.
- Developed a laptop specification extraction using **KNN** with a **Fuzzy Algorithm** & constructed a **price prediction** model using **Random Forest Regressor** & **LLM**.
- Automated **web scraping** using **Puppeteer (Node.js)** to collect market data.

##### Aetrex (Shoe Measurement & Sizing Solution):

- Engineered Sizeright, a cloud-native web widget for accurate shoe measurements, built with **Flask** and deployed on **AWS**.
- Developed scalable **RESTful** APIs integrated with the UI for real-time sizing using predictive **ML Models (Random Forest, KNN)**.

##### Other POCs & Contributions:

- Developed **AXLR8**, a **GenAI**-powered enterprise chatbot using **Retrieval Augmented Generation (RAG)** & **Large Language Models (LLMs)** for intelligent file-based Q&A. Integrated **LangChain**, **Azure OpenAI**, **PGVector** & **embedding models** for prompt engineering and semantic search. Designed chunking & multimodal input handling in **Flask** with native APIs for scalable deployment.
- Architected **QMetrix**, a **multi-tenant MERN** Stack platform that integrates **Jira** and **GitHub** to analyze project complexity and predict optimal task assignments using **Crew AI**. Designed complete frontend and backend architecture with seamless data pipelines, prompt engineering, and intelligent workload mapping.
- I Worked on **GenAI**-based POCs using **Crew AI** and **Vector DB (MongoDB Atlas)**,



## Work Experience

including a **Flight & Trip Booking Chat Assistant**, and **Email Assistant**.

08/2022 – 06/2023  
Bengaluru, India

### Technical lead Encora Inc.

#### Backend Developer:

- Developed a **Machine Learning** model for **Brightside** using **Random Forest** and **XGBoost** to predict **Loan Eligibility & Fraud Detection** by analyzing credit scores, employment data, and financial history — enhancing loan risk assessment.
- Built a **cloud-native backend system** using **AWS Lambda, RDS, and MySQL**, enabling scalable and serverless execution of loan evaluation services.
- Designed and implemented **ETL pipelines** with **Python** and **AWS Glue** for automated data extraction, transformation, and loading, streamlining model training workflows.

05/2019 – 07/2022  
Bengaluru, India

### Senior Software Engineer Larsen & Toubro Infotech Ltd.

#### MERN Stack Developer & Chatbot Developer:

- Developed an AI-powered **Virtual Assistant chatbot** for **Travelers** using **RASA, Python, and MongoDB**, improving user query handling in the insurance domain.
- Built front-end interfaces with **React, Redux, and Hooks**, while developing backend services using **Node.js** to ensure real-time policy data access.
- Integrated **AWS services** such as **Lambda, Amplify, S3, API Gateway**, and **EC2** to enhance system scalability, performance, and deployment efficiency.

06/2017 – 05/2019  
Bengaluru, India

### Senior Software Engineer Mphasis Ltd.

- Collaborated with **Schneider Electric** to develop **EcoReach**, an IoT-based commissioning tool for Automatic Circuit Breakers, using **AngularJS, Node.js**, and **Socket.IO** for real-time device data retrieval and cloud-based analysis.

08/2015 – 06/2017  
Bengaluru, India

### UI Developer Harman Connected Services Corp India Pvt. Ltd

- Collaborated with client **EYC** to create the **I2E** tool for retail store management and supply chain optimization. Engineered web pages using **Angular Material, AngularJS, Node.js, & MySQL**, enabling efficient data retrieval and display.

12/2014 – 08/2015  
Bengaluru, India

### Front-end web developer SMACera Technologies (Mindtree Ltd)

- **Contributed** to **E-commerce CMS** development for **client P&G** using **AngularJS** and **HTML & CSS**. I've worked on various websites for products.

04/2014 – 11/2014  
Delhi, India

### Web developer Gowyn Technologies Pvt. Ltd.

- Built up and maintained **LIMOUSINE GROUP**, a PHP-based car booking site for Canada, applying **HTML, CSS, & Bootstrap**, offering premium car services.



## Social Media



@Swarup Saha



@Swarup



snowflake-orm



## Education

07/2022 – 08/2024  
Delhi, India

### Machine Learning & Artificial intelligence | MCA Amity University

06/2010 – 05/2013  
Delhi, India

### Information Technology | BSc.IT Kuvempu University