

Sai Raghavendra Maddula

Software Engineer - AI/ML

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SUMMARY

Enthusiastic **Computer Science and Information Technology** professional seeking a challenging position in the United States. With a proven track record of **developing and delivering 10+ AI/ML** projects from **scratch to deployment** within a month, I have consistently achieved high client satisfaction, earning praise from over **15 happy clients** sensing a good communication and analytical approach. I am thriven to combine **DevOps** practices with **Generative AI** technologies to streamline and **automate workflows**, ensuring efficient and scalable solutions. Eager to contribute my technical expertise, **problem-solving** abilities, and **strategic thinking** mindset to drive impactful projects and **advance technology** within a dynamic and collaborative **team environment**.

Technical Skills

- **Programming Languages:** Python, Java, JavaScript, C++
 - **Web Technologies:** HTML, CSS, React, Node.js, Flask, Axios, SaaS
 - **DevOps:** Docker, Kubernetes, Jenkins, Ansible, Terraform, AWS (including AWS Amplify), Azure DevOps
 - **Machine Learning & AI:** NLP, AI model deployment techniques, Model Training, Model Fine Tuning, Deep Learning.
 - **Cloud Services:** AWS, Google Cloud APIs, Google Analytics, EC2, S3 Bucket
 - **Data & Big Data Technologies:** MySQL, MongoDB, PostgreSQL, Linux, Hadoop, Hive
 - **Security & Authentication:** OAuth 2.0, AWS Cognito
 - **SEO Optimization:** Implementing strategies to boost online visibility and performance
 - **Other Tools:** Git, JIRA, Prometheus, Grafana, SEO optimization techniques, Software Design
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Work Experience

Microsoft learn Intern

Hyderabad, India | June 2021 – July 2022

- Built and **deployed relevance** models for **personalized recommendation systems** using **NLP** and **data mining techniques**.
- Developed CI/CD pipelines leveraging **Azure DevOps** and Jenkins to ensure seamless deployment.
- Automated infrastructure provisioning using **Ansible** and **Terraform**, improving scalability.
- Designed scalable and reliable cloud architectures using **AWS (EC2, S3, EBS)**.

Projects

Project -1: Scorify AI

Technologies Used – HTML, CSS, Python.

Machine Learning and AI - OpenAI, Google Vision API Integrations. Model Fine-Tuning.

Deployment - Google Cloud Deployment and GitHub Pages.

Links - [GitHub](#)

Scorify is an advanced **AI-powered application** designed for interactive learning, test preparation, and real-time question detection. It leverages cutting-edge technologies, including **Google Vision API**, **OpenAI GPT-4**, and **browser-based SpeechRecognition**, to deliver a comprehensive and intuitive learning experience.

Key features include **OTP Validation**, **Interactive Reading**, **Interactive Listening**, and **Live Feed AI**. The **OTP Validation** module ensures **secure authentication** with API-based validation, real-time countdowns, and alerts. The **Interactive Reading** module extracts text from images or live feeds using **Google Vision API** and generates precise responses via **GPT-4 fine-tuned models**, ideal for exams like Duolingo. Users can upload images, detect text, and hear AI-generated answers using **speechSynthesis** for audio output.

The **Interactive Listening** module processes user audio through the **SpeechRecognition API** to provide real-time topic insights, dynamic AI-generated hints, and practice for speaking exams. Unique features include **context-based hint generation** and summarization prompts like "Summarize the topic into 75 seconds." The **Live Feed AI** hub integrates all Scorify functionalities, enabling seamless transitions between modules.

Built with **HTML5**, **CSS3**, **JavaScript (ES6)**, and **Bootstrap 5**, Scorify provides a responsive and engaging user interface. The **technology stack** also includes APIs like Google Vision for text detection and OpenAI GPT for context-based answer generation. It supports **speech-to-text transcription**, **text-to-speech responses**, and real-time performance enhancement.

Project -2: Zeez AI

Technologies Used - HTML, CSS, Python, JavaScript.

Machine Learning and AI - OpenAI Integration, Model Fine-Tuning, LangChain.

API - Flask, Axios.

Cloud Services - AWS EC2, S3 Bucket

Securities - OAuth2.0, AWS Amplify.

Links - [GitHub](#)

Developed **Zeez AI**, an AI-powered platform delivering innovative solutions for **interactive learning, exploration, and assessment**. Leveraging technologies like **OpenAI**, **Google Vision API**, **AWS Amplify**, **LangChain**, and **Flask**, the platform offers a seamless and intelligent user experience.

Key features include **Image-to-Text Conversion**, enabling accurate, multi-language text extraction using **Google Vision API** and **OpenAI**, and **Text-to-Speech**, powered by **LangChain's chat framework** for natural audio responses. The **Custom Quiz Generation** module creates personalized quizzes based on user input, while **Research a Topic** utilizes **OpenAI LLM** for faster chatbot responses and efficient text extraction.

Zeez AI employs **React Router** for smooth navigation, **AWS Amplify** for secure authentication, and **Axios** for reliable **API communication**. The backend, powered by **Flask**, ensures robust data flow, while its **intuitive UI/UX** delivers a responsive design across devices.

Project -3: LingoMate AI

Technologies Used - Python, JavaScript, Node.js, Flask.

Machine Learning and AI – Custom Generative AI models for multilingual interaction and sentiment analysis.

Deployment – Local Python/Node.js environment with extensibility for cloud hosting.

Links - [GitHub Repo](#)

LingoMate AI is a **generative AI-driven multilingual chatbot** designed to provide intelligent responses based on website content. Supporting **Hindi, English, or a blend of both**, it ensures seamless **human handover** for complex queries and offers **sentiment analysis** to adapt replies based on user emotions. The bot maintains **context retention** for coherent conversations and tracks user interactions with **analytics** for optimization.

Key features include **multilingual interaction**, **content-based responses** fetched via API, and an **admin-friendly backend** for customizable replies. The platform integrates **custom AI models**, a **Flask-based backend**, and a **Node.js-based frontend** for responsive user interfaces. LingoMate AI revolutionizes website engagement with its **dynamic, cost-effective, and scalable** chatbot capabilities.

For more projects, please navigate to this link [here](#).

Publications

Robust Azure CI/CD for Seamless Software Delivery

Sai Raghavendra Maddula

Published in the Proceedings of the IESTOC 2023 Conference, Christian Brothers University, Memphis, TN, USA.

Description: Focused on automating deployments, optimizing processes, and minimizing manual interventions to improve DevOps collaboration. Demonstrated Azure CI/CD pipelines for efficient microservices management and deployment to Azure Kubernetes clusters.

Project: Robust Azure DevOps CI/CD Automation for Django Application

Sai Raghavendra Maddula

Capstone Project, Christian Brothers University, Summer 2024.

Description: Implemented a CI/CD pipeline for Django applications using Azure DevOps, Docker, and Kubernetes. Enhanced operational efficiency and adaptability with an automated workflow for deployment and testing.

EDUCATION

- Master's in Computer Science, Christian Brothers University, Memphis, TN, USA - Graduated with a 4.000 GPA
 - Bachelor's in Computer Science and Engineering, KL University, AP, India - Graduated 2022 with a 7.5/10.00 GPA
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