

# SAI SUDHA PANIGRAHI

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AI/ML Enthusiast | Software Engineer | 3 YOE

## EDUCATION

University of Southern California (USC), Los Angeles

05/26

Master of Science, Computer Science (AI Focused), GPA: 3.82/4

- Relevant Courses: *Machine learning, Applied Natural Language Processing, Deep Learning*

## SKILLS

- Technical skills:** Python, SQL, C/C++, TensorFlow, PyTorch, scikit-learn, Pandas, NumPy, Machine learning, Statistics, Mathematics, NLP, Deep Learning, LLMs, REST API, Agile, Git, CI/CD, Linux/Unix, Bash, Backend Web Development, AWS, Docker, Java, HTML/CSS, JavaScript, Cloud Computing, Microsoft office, Debugging
- Soft Skills:** Team work, Verbal and Written Communication, Problem Solving, Cross-functional team collaboration

## WORK EXPERIENCE

AI Engineer Intern, Pasadena Digital, Los Angeles, CA

May'25 - Present

- Engineered **ML pipelines** leveraging OpenAI's Whisper and **Large Language Models (LLMs)** to perform real-time transcription and semantic analysis of air traffic radio communications.
- Developed **Python-based backend systems** integrated with JavaScript frontends for seamless real-time data streaming and intuitive visualization of critical aviation insights.

Software Engineer, D.E. SHAW & Co. (Arcesium), Bengaluru

Nov'23 - Jun'24

- Developed a scalable in-house automation framework using **Python, MySQL** that improved team efficiency by 40% and enhanced user experience, resulting in a 20% increase in client satisfaction
- Validated **performance of complex financial systems** using API automation tests, reducing manual testing hours by 25% and participated in the software development life cycle (SDLC)

FullStack Engineer, LOCAD, Bengaluru

Apr'22 - Aug'23

- Built the Backend** of an order forecasting module using **Django, REST APIs, JavaScript, SQL, Object Oriented Programming (OOP)** used for warehouse resource planning resulting in 50% increase in operational efficiencies
- Optimized the accuracy of the address mapping module by 20% by fine tuning algorithms which reduced order returns
- Integrated B2B APIs that drive corporate orders for over 100+ brands and **debugged complex software systems**

Software Engineer (Internship + FTE), ORACLE, Bengaluru

Aug'21 - Mar'22

- Developed a command line interface in **BASH, Python for Linux servers** to automate bulk updates for network monitoring tool configurations using APIs, reducing manual efforts and operational time significantly.
- Automated ad-hoc procedures in **Cloud infrastructure** using tools like **AWS, Docker/Kubernetes** leading to a 30% productivity increase and 25% reduction in manual tasks

## RESEARCH PUBLICATIONS

- First Author**, "A Comparative Study on Parameter Estimation of Covid Epidemiological Models using **Differential Evolution Algorithm**" published in **SPRINGER**, Chapter in Book Series: "Studies in Computational Intelligence", Jan'22
- Author**, "Animal Detection for Road safety using **Deep Learning**" published in **IEEE**, 2021 International Conference on Computational Intelligence and Computing Applications (ICCICA), Nov'21

## PROJECTS

Robust Text-to-SQL Systems using LLMs, USC

- Developed a schema-aware Text-to-SQL system using **fine-tuned Transformer models** (BART, Flan-T5) with semantic schema matching, achieving **high accuracy** in natural language query translation.
- Deployed a web interface enabling users to execute contextually accurate SQL queries directly from **natural language**

AI chatbot application for FAQs using TensorFlow and Python

- Organization:** Computer division, Indira Gandhi Center for Atomic Research, India (IGCAR)
- Designed and implemented **AI FAQ chatbot** using **Deep learning model TensorFlow**, and NLP technologies (NLTK) that intelligently answered relevant queries regarding the organization.
- Implemented **machine learning models** which **processed and analyzed datasets** to deliver over **85% accurate** and contextual responses to user queries. Tools Used: *Python, TensorFlow, Flask, HTML/CSS, JavaScript*

GitHub Link: <https://github.com/SaiSudhaPanigrahi>

## TEACHING ASSISTANTSHIP

- Conducted student viva, structure lab evaluations, coordinated lab sessions and grading activities for two semesters as an Undergraduate Teaching Assistant at Amrita School of Engineering, Coimbatore, 2021.
- Machine Learning Lab with Python:** 19EAC381, **Data Science Foundations Lab:** 18CS621

## CERTIFICATIONS

**Machine Learning A-Z: Hands-On Python & R In Data Science**, Udemy; **Deep Learning A-Z: Hands-On Artificial Neural Networks**, Udemy, Jul'20; Microsoft Technology Associate (MTA), Microsoft, Aug'20; July'20; Problem Solving Certification (**Data Structures & Algorithms**), HackerRank, Aug'20; Machine Learning Certification from Verzeo, Feb'20

## AWARDS

- Economic Times Campus Star | Dec 2021:** Featured on Economic Times as top 87 engineering students in India. competition included a 4-round process evaluating Aptitude, Cognitive Behaviour, Domain Knowledge & Group Leadership & Dynamics <https://economictimes.indiatimes.com/etcampusstars/program>
- Awarded First Class with Distinction | July 2021:** Graduate degree, BTech Computer Science & Engineering. High performance through university coursework. Involved in research activities and internship