

Sai Amruth Balusu

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PROFILE

I'm seeking Machine Learning research opportunities to enhance my researching capabilities and contribute to advancing both theoretical and applied ML. With strong foundations in NLP, computer vision, and RAGs, I aim to join a forward-thinking team where I can leverage my skills in TensorFlow, PyTorch, and cloud ML platforms. My research in privacy-preserving AI reflects my commitment to responsible innovation, with particular research interest in multimodal learning, attention fine-tuning, and ML scalability.

PROFESSIONAL EXPERIENCE

Oracle

Jul 2023 – Jun 2025 | Bengaluru

Technical Analyst

- Resolved 250+ customer issues and delivered 10+ projects using SQL, Groovy, Java, and Python, with a 9.8/10 average customer satisfaction score.
- Individually Built an internal **LLM + RAG assistant** for Oracle Fusion HCM SaaS, cutting research time from 1–2 weeks to under 5 minutes and reducing resolution time by 60% via PL/SQL code generation.
- Integrated **Generative AI features** for 3 clients by applying Fine-Tuning, Context Prompting, and RAG within Oracle Fusion, accelerating AI deployment.

Mercuri.ai

May 2023 – Aug 2023 | Bengaluru

ML Engineer (Freelance)

- Independently developed **end-to-end RAG pipeline** using **OpenAI API, LangChain, and MongoDB Vector Search** for Mercuri's SMS Marketing Tool, achieving **87%** customer query satisfaction.
- Optimized system performance through advanced prompting strategies while successfully deploying the AI-powered solution across **10+** client environments, providing seamless access to product catalogs and customer specific documentation.

Material Depot (YC)

Jan 2023 – Apr 2023 | Bengaluru

Data Science Intern

- Engineered advanced image based **product recommendation system** using **ResNet-150 (CNN)** and **k-means clustering** algorithms, boosting system accuracy from **79% to 92%**, **27%** increase in customer product browsing engagement, and **6%** growth in sales conversions, enhancing both **customer engagement** and **Sales**.

EDUCATION

B. Tech, Computer Science & Engineering

2019 – 2023 | Bengaluru

PES University

- Specialisation in Machine Learning & Data Science
- Specialisation Courses: Big Data (Hadoop, PySpark), Data Analytics, Image Processing & Computer Vision, Deep Learning

SKILLS

Machine Learning & AI Domains

NLP, Deep Learning, Neural Networks, Computer Vision, Recommendation Systems, GANs, RAG Development

Programming Languages

Python, C++, SQL, R, Groovy, Java

ML Tools

Tensorflow, Keras, PyTorch, Pandas, NumPy, Scikit-learn, Oracle Cloud (AutoML, ADS SDK), AWS (SageMaker, Lambda, EC2), Jupyter, MongoDB Vector Search

Others

Docker, Kubernetes, TypeScript, React, OpenAI/Gemini API

PROJECTS

Private AI (Published) [🔗](#)

A hybrid approach to privacy preserving AI

- Aim: To design and implement a hybrid approach to protect sensitive user data combining **multiple privacy preservation techniques**.
- Approach: Implemented hybrid approach to Privacy Preserving AI by combining three Privacy Preserving techniques - **Federated Learning, Differential Privacy, and Homomorphic Encryption**.
- Result: **Increased Privacy of model by a factor of ~9x** trading off with drop in accuracy

ScoutSmart (in Development) [🔗](#)

Football Scouting. Smart. Accessible. Powerful.

- AI-powered football scouting platform built with **React, TypeScript and Google Gemini** that helps users discover and analyze the next generation of football talent.
- The application features a chat-based interface with AI assistance, real-time football data integration for major leagues **generating Analytic Graphs, Stats, Tactical profiles** how you want it, when you want it which makes talent identification and scouting analysis both powerful and accessible to users.

OTHERS

Publications

PRIVATE-AI: A Hybrid Approach to privacy-preserving AI, IEEE BCD 2023 [DOI : 10.1109/BCD57833.2023.10466330 [🔗](#)]

Awards

Awarded the DAC scholarship and MRD scholarship for 4 & 2 consecutive semesters respectively for **Academic Distinction**.

Certificates

- Oracle OCI Certified Data Science Professional 2025 [🔗](#)
- Agentic AI: Building Data-First AI Agents [🔗](#)
- Deploying Scalable Machine Learning [🔗](#)
- Oracle Inventory Cloud 2024 Certified Implementation Professional [🔗](#)