

Sharan Shyamsundar

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EXPERIENCE

Working Student - Digitalization

Feb. 2023 – Jan. 2025

BASF SE

Ludwigshafen, Germany

- Contributed to the development of Eddy, a Retrieval-Augmented Generation (RAG) powered internal helpdesk, reducing query resolution times by an estimated 20%.
- Provided real-time supply chain analysis, enabling quick decision-making.
- Built interactive dashboards for allocation management, inventory control, and emissions tracking to streamline operations.
- Technologies:** Power BI, SQL, Python, Azure DevOps, Azure AI Studio, Gitlab

Quantitative Analyst & Consultant

Sept. 2020 – Jan. 2023

Equity Data Science

Mumbai, India/Remote

- Consulted for hedge funds and asset managers on financial reporting and risk management, improving data accuracy
- Automated investment workflows and identified process inefficiencies, developing intuitive tools that streamlined decision-making.
- Delivered multiple proof-of-concept (POC) projects, showcasing advanced analytics capabilities for sophisticated clients.
- Served as the primary lead for ESG-related financial analytics products, ensuring alignment with best practices and regulatory requirements.
- Provided ESG-focused financial reporting solutions to hedge funds and asset managers, driving data-driven insights with advanced analytics.
- Recruited and trained junior quant analysts, fostering a high-performing, growth-oriented team.
- Technologies:** R, Spotfire, Snowflake, Postgres, Python

EDUCATION

Universitat Mannheim

Mannheim, Germany

Masters in Data Science

- Key courses:** Advanced Text Analytics, Deep Learning, and Machine Learning
- Seminar:** Large Scale Data Integration - Deep Tabular Learning for Domain-Specific Prediction Tasks
- Thesis:** A Study of Parameter-Efficient Fine-Tuning Methods applied to Quantized Large Language Models

NMIMS - Sunandan Divatia School of Science

Mumbai, India

Bachelors of Science Applied Statistics and Analytics

- Key courses:** Introduction to Data Science, Time Series & Forecasting, Multivariate Analysis, Hypothesis Testing, Estimation Theory, and Multivariate Calculus

TECHNICAL SKILLS

Strengths: NLP, LLMs, LLM Finetuning, RAG, Agentic AI

Languages: Python, SQL, R

Frameworks: Pytorch, Tensorflow, Huggingface Transformers, smolagents, Langchain, LLMops

Developer Tools: Git, Power BI, JupyterLab, Docker, Azure AI Studio, OpenAI, Ollama, AWS

PROJECTS

Master Thesis - Q-PEFT | LLMs, Quantization, Fine-Tuning

Mar. 2024 – Aug. 2024

- Researched advanced Parameter-Efficient Fine-Tuning (PEFT) techniques combined with quantization for large language models (LLMs), achieving a 40-60% reduction in memory usage while maintaining accuracy.
- Implemented and fine-tuned multiple PEFT strategies, such as LoRA and IA3, on quantized LLaMa model, achieving substantial efficiency gains with minimal performance trade-offs.
- Evaluated trade-offs between computational efficiency, memory footprint, and model accuracy, demonstrating a 2x increase in efficiency for deploying LLMs in constrained environments.
- Demonstrated feasibility of deploying large models in constrained environments.

ZENIX (Hackathon@WEF2025) | *Artificial Intelligence, Machine Learning*

Jan. 2025

- Runner Up solution in the 44-hour Hackathon organised by Data Migration International at the World Economic Forum 2025
- Multi-agent, robust AI app that seamlessly translates natural language into precise SQL queries while generating the necessary XML business objects.
- Created the entire pipeline of the solution and managed interactions between multiple AI agents created to perform different tasks.
- To enhance the user experience on the Jivs IMP platform, integrated a feature that intelligently generates navigation links to desired tables and views.

FOODLE | *Automatic Speech Recognition, Large Language Models*

Mar. 2023 – Mar. 2024

- Developed "Foodle," an AI-driven cooking assistant, integrating Automatic Speech Recognition (ASR), LLMs, and RAG to enhance the cooking experience.
- Fine-tuned and deployed LLMs like Mistral, achieving 91.3% accuracy in generating precise and contextually relevant recipe answers during human evaluation. Deployed the models using AWS SageMaker.
- Implemented Whisper-based transcription models, with the best-performing model achieving a Word Error Rate (WER) of 15.15%
- Built interactive speech functionality using LangChain and FAISS, enabling hands-free recipe navigation and multilingual support, enhancing accessibility for diverse users.
- Collaborated in a cross-functional team from concept ideation to demonstrator launch, showcasing practical ASR and LLM applications for an enhanced user experience.

ARTICULA (Informatics Cup) | *Artificial Intelligence, Machine Learning*

Nov. 2023 – Jan. 2024

- Participated in the Informatics Cup 2024 with "ARTICULA," a solution for detecting and spoofing AI-generated text and images to combat misinformation and copyright infringement.
- Deployed ensemble models that combined low-resource, domain-agnostic detection techniques for text and images, achieving enhanced accuracy in identifying AI-generated content.
- Implemented iterative spoofing attacks leveraging model feedback to introduce minimal perturbations, effectively bypassing detection mechanisms.
- Highlighted the ongoing arms race between detection and spoofing, underscoring the need for continuous innovation in AI security.

ACHIEVEMENTS

Runner Up - Hackathon @ World Economic Forum 2025

Winner – DMI Challenge at 2nd Jivs Hackathon, hosted by Data Migration International (2024)

Winner – Datathon 2023, hosted by STADS Mannheim e.V.

EXTRACURRICULAR ACTIVITIES & LEADERSHIP

Core Member, Google Developers Group on Campus (2024)

Placement Coordinator, BSc Applied Statistics & Analytics (2020)

Sports Subhead, Student Council, NMIMS SDSOS (2018–2019)

International Guest Handling Volunteer, ComicCon Mumbai (2019)

LANGUAGES

English, Hindi, German