

Varun Sampath Kumar

Coimbatore, India | [LinkedIn](#) | [Github](#) | [Portfolio](#) | +91-90475-36310 | varunkavin5@gmail.com

EDUCATION

PSG College Of Technology

Integrated MSc Data Science

Relevant Coursework: Probability & Statistics, Machine Learning, Deep Learning

India

2020-2025

CGPA: 8.42

SKILLS

Python | Machine Learning | C/C++ | MySQL | LIME | Keras | Streamlit | WandB | OpenCV | Tableau | ChromaDB

WORK EXPERIENCE

KLA Tencor

SDE(AI/ML) Intern

Chennai

June 2023 - November 2023

- Accelerated the **Inference pipeline** by **4x** using Batch Inference, Model Quantization, Model Fusion, and Pruning techniques.
- Integrated **YOLO** for precise object detection in images, serving as a robust preprocessing step in the pipeline.
- Explored diverse pre-trained **CNN models** for extracting embeddings, implementing a **Vector Database** for efficient **semantic search**.
- Elevated the performance of the Wafer defect classification pipeline by **1.25x** incorporating advanced techniques in **Self-Supervised Pre Training**.

RagaAI

Data Science Intern

Remote

May 2023 - June 2023

- Spearheaded the training of state-of-the-art **Vision Transformer** architectures, Conducted experiments with diverse architectures within the **Hugging Face** framework, optimizing model selection.
- Elevated **inferencing and model training** performance by **1.5x** through the implementation of Mixed Precision Training and GPU utilization.
- Orchestrated the deployment of **embedding visualizations** using Dash on AWS, enhancing model understanding. Innovatively created **Streamlit** for an internal demo application.

PROJECTS

[Sentiment Federator](#)

- Developed a **Sentiment Analysis** project with **Federated Learning**, ensuring heightened **data privacy**.
- Implemented a **CNN+BiLSTM** architecture, surpassing Central training performance by an impressive **10% margin**.
- Introduced a novel **sampling-based aggregation** method in the architecture, significantly boosting overall performance.

[Resume Scorer](#)

- Engineered an innovative HR tool for precise **resume analysis**, aligning qualifications with job requirements. with evaluation of resumes on various factors.
- Implemented a **scoring mechanism**, utilizing similarity measures for objective **candidate ranking**.
- Employed **OCR** to extract details from resumes, streamlining the **data collection process**.
- Integrated **NLTK** and **spaCy** for semantic analysis, enhancing the depth of text processing.
- Created an intuitive **Streamlit** web interface for seamless accessibility by HR professionals.

CO-CURRICULAR ACTIVITIES AND ACHIEVEMENTS

- **Second Runner Up** in Machine Hack Data Science Student Championship 2023.
- Qualified for finals and was among **top 5 Teams** in Intra-College Hackathon Ideation-2021 designed an EdTech tool using **NLP**.
- **Placement Representative** of the 2020-2025 M.Sc Data Science at PSG College Of Technology.
- Have **taught Python and Machine Learning** to more than **100+ students** across the globe and assisted them in their **projects**