

SAMAR SINGH

MACHINE LEARNING AND AI ENGINEER

 [linkedin.com/Samar](https://www.linkedin.com/Samar)

 [bufferfis](#)


 samar.singh2023@vitstudent.ac.in

 +91 972-455-5679

 [Samar_Singh1](#)

EDUCATION

BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE
Vellore Institute of Technology

 Aug 2023 – May 2027 (CGPA: 9.11)

RESEARCH PUBLICATIONS

UNIVERSITY OF PRETORIA

 Pretoria, South Africa

 Feb 2024 – Feb 2025


- Publication: **MAGE: Multi-Head Attention Guided Embeddings for Low Resource Sentiment Classification** (arXiv_Link)
(Under Review by ACL ARR 2025 Feb)
- Achieved a boost of accuracy through novel language-agnostic data augmentation
- Demonstrated incremental improvements in challenging low-resource sentiment classification scenarios

EXPERIENCE

HELIVERSE X GOOGLE DEVELOPERS GROUP ON CAMPUS

 On campus

AI ENGINEER

 Jan 2025 – Present

Skills: Pytorch, FastAPI, Huggingface, Transformers, CUDA

Responsibilities:

- Engineered **real-time crime detection system** using NLP & CV techniques
- Collaborated in 15+ member team for dynamic scene understanding (Ollama/Llama Vision)
- Architected integrated surveillance system with PyTorch/NumPy/Transformers stack

LINUX CLUB VIT CHENNAI

 Chennai, India

OPERATING SYSTEMS CO-LEAD

 Sept 2024 – Present

Event: Cyber-0-Day 3.0

Role(s): OS Lead, Event Coordinator, Speaker

Skills: Debian Linux, Public Speaking

Responsibilities:

- Spearheaded technical operations and project management, orchestrating OS distribution and **reducing setup time by over 2 hours for 300+ participants.**
- Managed a cross-functional team, resolving **80%** communication bottlenecks and ensuring seamless event execution.
- Delivered an Forensics and Linux basics workshop to **300+ attendees**, demonstrating practical cybersecurity strategies through hands-on activities.

PROJECTS


Project: Split Learning with LLMs leveraging Peft methods like DoRA/LoRA

 Research Project

Stack: Python, PyTorch, Transformers, NumPy, FastAPI, Pandas, CUDA, Peft, nltk

- Distributed framework for parameter-efficient fine-tuning
- 40%** Increase in the ROGUE metric on testing over the standard after the 1st epoch alone
- Crafted an U-shape Client and Server architecture to increase privacy by reducing the risk of data-leaks
- Bench-marked with cutting edge Dual Nvidia H100 GPUs

Project: Wavy: Local Audio Streaming & Sharing Platform

 Open Source Project

Stack: C, C++, libzstd, libmp3lame, Libarchive, openssl

- Lightweight solution supporting lossless/lossy formats with 30% compression
- Real-time playback without FFmpeg and secure SSL/TLS transfer

Project: Look Ahead Intelligent Data Augmentation

 ML Research


Stack: Python, PyTorch, Transformers, Numpy, Pandas, Google Collab

- Language-agnostic augmentation with theorized 2% accuracy increase
- Combines BERT with denoising autoencoders and linear transforms

TECHNICAL SKILLS

Languages	Python, Java, C/C++, HTML/CSS/JavaScript
Tools	Git, GitHub, Visual Studio, VS Code, Colab, Kaggle, Linux, LaTeX
ML Stack	PyTorch, TensorFlow, Scikit-learn, Transformers, KaggleHub
Data Science	Pandas, NumPy, SeaBorn, Matplotlib
Backend	Oracle SQL, MySQL, SQL, FastAPI

CERTIFICATIONS



Supervised Machine Learning: Regression and Classification

- **Stanford Online**
- Scikit-learn model building & evaluation
- Linear/Logistic Regression & Gradient Descent

[Certificate Link]



Advanced Learning Algorithms

- **Stanford Online**
- Neural Networks with TensorFlow
- Decision Trees & Ensemble Methods

[Certificate Link]

ACHIEVEMENTS




Pentathlon 2024 Finalist

33rd nationwide rank (**Top 2%**) among **1557 teams** in national cybersecurity competition



Password 24 Top 10

Solved a broad range of cybersecurity challenges, leveraging Linux utilities.



FOSSIT Finalist

1st runner up in an open source themed hackathon