

SWARIT SHUKLA

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Professional Summary

Computer Science undergraduate specializing in Artificial Intelligence & Machine Learning with a strong interest in Natural Language Processing and Large Language Models. Experienced in implementing foundational machine learning and NLP architectures from scratch to develop a deep understanding of modern AI systems. Passionate about building practical AI applications and reasoning systems.

Technical Skills

- **Programming:** Python
- **AI / NLP:** Large Language Models (LLMs), Natural Language Processing (NLP), Transformers, Language Modeling, Deep Learning
- **Frameworks:** PyTorch, TensorFlow
- **Data Science:** NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn
- **Tools:** Git, GitHub, Linux, Docker, Jupyter Notebook, Cursor, VS Code, OpenAI Codex

Selected Projects

Transformer Architecture | github.com/SWARITSHUKLA

- Implemented the original Transformer architecture from scratch using PyTorch, including multi-head self-attention, positional encodings, encoder-decoder blocks, masking, and autoregressive decoding.
- Built to understand the architectural foundations behind modern large language models.

WaveNet for Text Generation | github.com/SWARITSHUKLA

- Recreated WaveNet with causal and dilated convolutions for autoregressive character-level text generation.
- Based on DeepMind's architecture and Andrej Karpathy's Makemore series.

Foundational NLP Architectures | github.com/SWARITSHUKLA

- Implemented Bigram Language Models and Bengio's Neural Probabilistic Language Model from scratch.
- Explored core concepts in statistical and neural language modeling.

Foundational ML Architectures | github.com/SWARITSHUKLA

- Built Linear Regression, Logistic Regression, Softmax Regression, Neural Networks, backpropagation, and anomaly detection from scratch using NumPy.
- Focused on understanding the mathematics underlying modern machine learning.

Education

SRM Institute of Science and Technology (SRMIST), Delhi-NCR Campus

B.Tech in Computer Science and Engineering (Artificial Intelligence & Machine Learning)

2024–2028 | CGPA: 8.53

Certifications

- Machine Learning Specialization — Stanford University & DeepLearning.AI
- Deep Learning Specialization — DeepLearning.AI
- Mathematics for Machine Learning — DeepLearning.AI