

Samaksh Sethiya

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Education

Vellore Institute of Technology, Bhopal

B.Tech. in Computer Science Engineering

Sept 2022 – Current

CGPA: 9.07

Bhanpura Public School

12th Grade

May 2022

Percentage: 92.0%

Technical Skills

Programming Languages: Python, C++, C, Java, SQL, JavaScript, HTML, CSS, PHP, Bash

Machine Learning & AI: Transformer Models, NLP, Computer Vision, CNNs, Deep Learning, Data Preprocessing

Software & Tools: Git (Version Control), Linux, AWS (EC2, S3, Lambda), Cloud Deployment, MATLAB

Database Management: MySQL, Redis, Database optimization, Query Performance Tuning

Projects

Mini GPT Model (NLP, PyTorch)

- Built a simplified GPT language model from scratch, trained on 1.1 million tokens with 10 million parameters, achieving a validation loss of approximately 1.7 using Shakespeare's compiled work.
- Improved training stability with techniques like residual connections, layer normalization, and dropout, enhancing model performance leading to a 15% performance boost and Shakespeare-like text generation.
- Developed a fully functional text generation pipeline, demonstrating a deep understanding of transformer-based architectures and neural network optimization.

Redis Clone (Systems Programming, C)

- Engineered a high-performance, in-memory key-value store, benchmarked to handle 50,000 SET operations per second and 100,000 GET operations per second, with memory usage optimized to 120 MB for 1 million key-value pairs, maintaining just 10% overhead.
- Architected a networked server with non-blocking I/O and custom hash tables, ensuring efficient data storage and retrieval and lookup latency by 20%.
- Designed a lightweight command protocol and enhanced memory management, minimizing latency and maximizing throughput.

ASL Translator (Computer Vision, YOLO, CNN)

- Created a real-time ASL translator with 90% accuracy on the ASL Alphabet Dataset, achieving 0.90 mAP for hand detection with YOLO and operating at 30 FPS for smooth real-time performance.
- YOLO-implemented object detection and classification with a Convolutional Neural Network (CNN), optimizing model performance with advanced image processing techniques.
- Enhanced detection speed and accuracy by fine-tuning the model on curated datasets of custom 5K+ images and integrating real-time feedback mechanisms, leading to accuracy boosting of around 8%.

Achievements & Certifications

Achievements

- Top 180 Finalist, HP Power Lab Hackathon (Jan 2025)** – Led a team of 4 and developed next-gen energy efficiency solutions for Hindustan Petroleum Corporation Limited.
- GeeksforGeeks X Adobe GenSolve (July 2024)** – Competed in solving real-world problems through creative solutions.

Leadership

- Event Coordinator, Pi Mathematics Association** – Created visuals that increased event turnout by 20% and social media reach by 15%.
- Design Lead, The Poesis Society** – Led the design of promotional materials for well-attended poetry and creative arts events. Managed the events with over 150 attendees.

Certifications: C Programming for Everybody (Coursera), The Bits and Bytes of Computer Networking (Coursera/Google), Cloud Computing (NPTEL), Matlab Onramp (MATLAB)