Samaksh Sethiya

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Education

Vellore Institute of Technology, Bhopal Sep 2022 – Current
B.Tech. in Computer Science Engineering *CGPA: 9.06*

Bhanpura Public School *May 2022*
12th Grade *92.0%*

Skills

Languages: Python, C++, C, Java, SQL, JavaScript, HTML, CSS, Go

Frameworks & Libraries: Pytorch, OpenCV, Scikit-learn, Eigen, SDL, Pygame, Libsodium

Tools & Technologies: Git, MySQL, SQLite, Docker, Linux

Projects

Mini GPT Model (NLP, PyTorch) [Github]

- 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 collected works.
- Improved training stability using residual connections, layer normalization, and dropout, leading to a 15% performance boost and Shakespeare-like text generation.
- Engineered a standalone text generation pipeline, demonstrating a deep understanding of transformer-based architectures and neural network optimization.

Secure Tactical Chat (Encryption, SQLite, Go, C++) [Github]

- Architected a C++ CLI tactical chat app using Libsodium X25519 Diffie-Hellman and ChaCha20-Poly1305 AEAD for 100% end-to-end encryption over DTLS 1.2/UDP with built-in retransmission, fragmentation, and NAT traversal.
- Implemented versioned message framing in C++ with Protocol Buffers for compact binary schemas and forward/backward compatibility, plus a SQLite queue for 100% reliable offline buffering in intermittent networks.
- Designed a Go relay server with LevelDB for zero-knowledge blob routing via REST endpoints, and validated its resilience under 30% simulated packet loss using Docker tc/netem and Pumba.

ASL Translator (Computer Vision, YOLO, CNN) [Github]

- Developed a real-time hand gesture recognition system that translates American Sign Language (ASL) gestures into English letters, aimed at improving communication accessibility for the deaf and hard-of-hearing community.
- Collected and labeled a dataset of approximately 8,000 images, with 300–350 samples per alphabet letter, and trained a Convolutional Neural Network (CNN) model achieving around 90% accuracy in recognizing static ASL gestures.
- Implemented the system using Python, TensorFlow, Keras, and OpenCV, combining deep learning and computer vision techniques to build an efficient and accurate real-time gesture-to-text conversion pipeline.

Achievements & Certifications

Achievements

- **NPTEL Cloud Computing and Marketing Analytics –** Ranked in the top 1% among 23,000+ learners in Cloud Computing and among 1,500+ learners in Marketing Analytics.
- **Top 180 Finalist, HP Power Lab Hackathon (Jan 2025) –** Led a team of 4 and engineered next-gen energy efficiency solutions for Hindustan Petroleum Corporation Limited.

Certificates: C Programming for Everybody (Coursera), Cloud Computing (NPTEL)

Co–Curriculars

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