

# Samaksh Sethiya

samakshsethiya22@gmail.com | +91 90390 14722 | linkedin.com/in/samaksh-sethiya | github.com/Samaksh22

## 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%

## Skills

---

**Languages & Frameworks:** Python, C++, C, Java, SQL, JavaScript, HTML, CSS, Pytorch

**Tools & Technologies:** Git, MySQL, SQLite, Docker, Linux, AWS, Libsodium, MATLAB

## 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.
- Engineered a fully functional text generation pipeline, demonstrating a deep understanding of transformer-based architectures and neural network optimization.

**Secure Tactical Chat** (Encryption, SQLite, Go, C++)

- 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.
- Developed a Go relay server with LevelDB for zero-knowledge blob routing via REST endpoints and validated resilience under 30% simulated packet loss using Docker tc/netem and Pumba.

**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%.

## Certifications

---

- **Coursera** — The Bits and Bytes of Computer Networking, C Programming for Everybody
- **NPTEL** — Cloud Computing, Marketing Analytics
- **FACE Prep** — Problem Solvers: Mastering Data Structures & Algorithms
- **Ethnus** — AWS Solutions Architect - Associate Certification Program

## Achievements

---

- **Top 180 Finalist, HP Power Lab Hackathon (Jan 2025)** – Spearheaded a team of four to design next-generation energy-efficiency solutions for Hindustan Petroleum Corporation Limited.
- **GeeksforGeeks X Adobe GenSolve (July 2024)** – Competed in solving real-world problems through creative solutions.
- **NPTEL Cloud Computing and Marketing Analytics** – Ranked in the top 1% among 23,000+ learners in Cloud Computing and 1,500+ in Marketing Analytics.