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Anshuman Singh

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Undergraduate CS student focused on research-driven engineering. I spend my time implementing papers, writing technical guides that make sense of complex topics, and building robust systems. I'm a big believer in rigorous documentation and creating software that's as consistent as the research it's based on.

EDUCATION

[redacted] | B.Tech Computer Science (AI & ML) Sep 2023 – 2027 (Expected)

- Ranked #1 in AIML specialization batch; top scholar in the B.Tech CSE program (≈300+ students).
- Current CGPA: 9.49/10.00 | Highest SGPA: 9.92/10.00
- Coursework: Advanced ML, NLP, Probability & Statistics, Linear Algebra, Computer Networks, Operating Systems, DBMS, Discrete Mathematics, Design & Analysis of Algorithms

RESEARCH

Emotion & Sentiment Classification | Python, scikit-learn, TF-IDF, SMOTE/ADASYN, TensorFlow/Keras, PyTorch Link | Summer – Fall 2025

- Built and benchmarked a progression of models from classical ML baselines to deep sequence models; achieved best performance (93% accuracy) with BiLSTM + custom attention.
- Used pretrained embeddings (GloVe/Word2Vec) and systematic evaluation (per-class metrics, confusion matrices) to quantify tradeoffs in context awareness.
- Focused on imbalance handling and interpretability via attention scores and error analysis.

Impact of Network Partition Attacks on Blockchain Consensus | Python, NetworkX, NumPy, Matplotlib Link | Winter 2025 – Present

- Studying forks, partitions, intentional forks, and propagation behavior through a small-scale simulator and literature review.
- Measuring fork rates, orphaned blocks, reorg behavior, and chain rejoin dynamics under controlled partition scenarios.

TCP vs UDP in Real-Time Online Games | Networking, latency/jitter measurement, packet loss tolerance Link | Winter 2025 – Present

- Investigating transport-layer tradeoffs in competitive multiplayer games (e.g., Valorant/CS2): latency, reliability, jitter, and packet-loss tolerance.
- Studying how games build custom reliability layers, lag compensation, and state synchronization on top of UDP.

PROJECTS

MyGPU | Python, Click, Rich, FastAPI, NVML (nvidia-ml-py) Link | Fall 2025

- Built a lightweight local GPU monitoring + benchmarking utility with both CLI and Web dashboard; designed for privacy-first local execution.
- Added admin-centric controls such as VRAM enforcement (auto-terminate over-limit processes) and watchlists; optional CUDA benchmarking (CuPy/PyTorch) support.

GitHub Translation Pipeline | GitHub Actions, Python, Bash, model caching, HuggingFace Link | Summer 2025

- Built a privacy-first CI pipeline that runs fully on GitHub runners (no API keys), generating 20+ README translations per repository.
- Sped up runs via parallel job execution and model-weight caching; added post-processing + structural validation to preserve code blocks and markdown structure.

Streax Bot | Reddit Hackathon | React, Vite, Tailwind, Node, Firestore, Gemini Link | Fall 2025

- Built for the Reddit's Devvit Hackathon: a topic-based quiz experience with daily play limits and leaderboards to drive repeat engagement.
- Designed for non-repetitive content and responsiveness using caching strategies and LLM-generated question pipelines.

OPEN SOURCE

Core Contributor / Maintainer | waka-readme-stats (4k+ stars) | Python, CI/CD, Docker,Visualization Libraries Link | 2025 – Present

- Contributed the README translation pipeline and helped operationalize privacy-first translations at scale.
- Unblocked stalled CI workflows/PRs by fixing permissions and workflow strategy; resolved multiple bugs and improved maintainer review throughput.
- Proposed an alternate PR review strategy and improved CI reliability using mock data for safer previews and faster iteration.

COMPETITIONS

NES Innovation Award 2025 | National Competition 2025 - Present

- Leading a 5-member team for this national competition; short-listed into the top-50 qualifiers.
- Building a nation-wide client-server based network for information dispersal through multiple end-point modes.

[redacted] **Hackathon** | Healthcare Track (3rd Place) | Python, Flask, Data Curation, Finance Feb 2024

- Led a team of 4 members which developed a end-to-end ML-powered WebApp prototype in 48h.
- Traditional medicine(Ayurveda) based diagnosis and treatment recommendation system; achieving 92% accuracy scores.
- Data collection(Web scraping+Synthetic Data Generation), Model training(Random Forest), evaluation, and deployment.

[redacted] **Hackathon** | Special Recognition | Python, Pandas, XGBoost/LightGBM, SHAP Fall 2024

- Led a team of 5 members, and got special recognition by judges for methodology, execution and presentation.
- Built a LightGBM stacking classifier on 20K+ loan records;
- Achieved 92.8% accuracy on classifying potential clients for the bank's private loan offering services