Satyam Singh
Curriculum Vitae

Berhampur, Odisha
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Portfolio

Education

B.Tech in Computer Science and Engineering *Aug 2023 – Present*
NIST University, Berhampur, Odisha. CGPA: **8.98** / 10

Research Interests

Machine Learning: Neural Networks, Representation Learning, NLP | **Focus:** Robust Model Design, Real-time Inference

Technical Skills

Machine Learning	PyTorch, TensorFlow, Keras, Scikit-learn, CNNs, RNNs, LSTMs, Transformers
Computer Vision	Object Detection, Feature Pyramids, Context Modeling, Data Augmentation
NLP	Text Classification, Sequence Modeling, GloVe Embeddings, Tokenization
Systems & Tools	Docker, CUDA, NumPy, Pandas, REST APIs, PostgreSQL, MongoDB, AWS

Experience

Machine Learning Research Intern *May 2025 – Aug 2025*
Indian Institute of Technology Mandi

– Researched deep learning methods for small-object detection in remote sensing imagery; designed attention-based architectures with PyTorch/CUDA for efficient GPU-accelerated training.

– Applied models to agricultural monitoring datasets and contributed experimental results toward ongoing research publications.

Machine Learning Project Intern *May 2024 – Jun 2024*
Indian Institute of Technology Kanpur

– Supported GNA operations migration to Genesys platform, ensuring system reliability for 1,200+ agents during phased rollout.

Projects

VARDAx Connect – ML-Powered Web Application Firewall *Dec 2025*

– Built production-grade ML-driven WAF for real-time threat detection and automated security response using advanced traffic pattern analysis.

Smart Power Demand & Generation Prediction System *Jun 2025*

– Designed multi-region DL system forecasting power generation using LSTM/GRU and Transformers; evaluated with MAE, RMSE against ARIMA baselines.

– Deployed Dockerized inference behind REST API with experiment tracking for reproducibility.

Brain Tumor Classification Using CNNs *Feb 2025*

– Built medical image pipeline for MRI tumor classification using fine-tuned VGG16/ResNet; achieved 92% validation accuracy with data augmentation.

Sign Language Recognition Using Deep Learning *Sep 2024*

– Developed real-time ASL recognition system with optimized CNNs achieving 95% accuracy across multiple users and conditions.

Fake News Detection Using NLP and LSTM *Jun 2024*

– Implemented LSTM-based detection with GloVe embeddings achieving 89% F1-score; conducted error analysis on linguistic patterns.

Awards and Achievements

– **Finalist** (Top 30/2400 teams) – IIT Guwahati Techniche Tech-Expo 2025

– **Rank 76** – IIT Kharagpur Data Science Hackathon (Kshitij) 2025

– **First Prize** – College Research Paper Competition: "Fault-Tolerant Task Scheduling for Cloud Computing"

– **Research Paper under review** – "IoT for Sustainable Resource Management"