

Nimish Jain

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EDUCATION

Vellore Institute of Technology

Bachelor's of Technology

Computer Science and Business Systems

Cumulative GPA: 8.80 / 10

Relevant Coursework: Data Structures and Algorithms (C), Object Oriented Programming (C++), Database Systems and Management, Computational Statistics, Python, Artificial Intelligence

Vellore, India

September 2022 - June 2026

PROFESSIONAL EXPERIENCE

Research Intern

Indian Space Research Organization, URSC

- Developed a physics-guided ML model using 36,000+ spacecraft trajectory records to predict atmospheric density during aerobraking, integrating domain constraints with data-driven learning. Predicted key mission metrics using time-series models, aiding in anomaly detection and adaptive planning.
- Engineered an adaptive learning pipeline for real-time parameter updates, enabling the model to respond dynamically to changing atmospheric conditions

ISITE, Bangalore

May 2025 – July 2025

Research Intern

IIT Madras Research Park

- Conducted hyperparameter optimization, model evaluation, and iterative improvements to ensure scalability and practical applicability in collaboration with ICCW and IIT Madras for impactful environmental solutions.
- Engineered a predictive model for forecasting water purity at various future time points using extensive datasets from the Haryana government.

Remote

December 2024 – May 2025

PROJECTS

[Sequential Behavioral Model](#) | *Anomaly Detection, Unsupervised Learning*

February 2025 - February 2025

- Achieved 2nd place in the Digital Security track, ranking in the top 10 out of 200+ teams, by developing a self-adaptive authentication mechanism using unsupervised learning, time-series anomaly detection, and user behavior modeling for dynamic access control.
- Developed an AI-powered monitoring system that integrates OTP-based security with an ML model for user authentication

[Automated Diagnosis of Skin Diseases](#) | *Deep Learning, Fine Tuning*

December 2025 - January 2025

- Designed and fine-tuned an XceptionNet-based deep learning architecture for the classification of 24 distinct skin diseases, leveraging transfer learning and a large-scale, diverse image dataset to ensure robustness across varied skin tones and conditions.
- Enhanced diagnostic precision by implementing advanced data augmentation strategies and class imbalance handling, enabling the model to accurately detect rare conditions alongside common skin disorders.

[PPE Safety Detection](#) | *Computer Vision, TensorFlow Object Detection*

January 2025 - May 2025

- Developed and deployed "SafeSite AI," a multi-class PPE compliance detection system leveraging YOLOv8, R-CNN, and pose estimation, achieving mAP@50 of 0.959 and recall of 0.927 for helmet, vest, gloves, boots, goggles, and mask detection under diverse site conditions.
- Designed and implemented a rule-based compliance engine combining instance segmentation with positional verification to automate PPE usage checks, significantly reducing false positives and enhancing detection reliability

TECHNICAL SKILLS

Languages: Python, C, C++, HTML/CSS

Technologies / Framework: GitHub, Tensorflow, Pytorch, Transformers, FastAPI, SQL, AWS

CERTIFICATIONS

- [Supervised Machine Learning: Regression and Classification](#) by Stanford
- [Advanced Learning Algorithms](#) by Stanford