

# Nimish Jain

jainnimish245@gmail.com | +91 7703816041

<https://github.com/NimishJ24> | <https://www.linkedin.com/in/nimish-jain-1012a7257/>

## EDUCATION

---

**Vellore Institute of Technology**  
Bachelor's of Technology  
Computer Science and Business Systems  
**Cumulative GPA:** 8.80 / 10

Vellore, India  
September 2022 - June 2026

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

## PROFESSIONAL EXPERIENCE

---

**Research Intern** ISITE, Bangalore  
**Indian Space Research Organization, URSC** May 2025 – July 2025

- 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

**Research Intern** Remote  
**IIT Madras Research Park** December 2024 – May 2025

- 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.

## 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