

Yuvraj Jha

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SUMMARY

Innovative and detail-oriented Computer Science undergraduate with a strong command of software engineering, machine learning, and system design. Proficient in translating complex problems into efficient, scalable solutions across domains like computer vision, NLP, and full-stack development. Experienced in leveraging modern frameworks, cloud platforms, and AI models to build intelligent, user-centric applications. Known for a fast-learning curve, attention to detail, and a passion for building technology that solves real world challenges. Well-grounded in core computer science fundamentals including Data Structures and Algorithms, Operating Systems, Computer Networks, DBMS, and Object-Oriented Programming.

EDUCATION

Vellore Institute of Technology, AP	Current CGPA – 9.25
Integrated MTech in Computer Science	Graduation Date: June 2027
Kendriya Vidyalaya Alipurduar Junction	Class 12 – 89% (2022)
	Class 10 – 86.6% (2020)

WORK EXPERIENCE

North Eastern Space Applications Centre (NESAC), Department of Space, Govt. of India

Intern, Urban & Regional Planning Division | May 2025 – July 2025

- Spearheaded the development of a census-independent population estimation framework leveraging high-resolution satellite imagery, interpretable deep learning models (YOLOv8), and spatial AI techniques.
- Applied advanced geospatial analytics and remote sensing workflows to process imagery and elevation data (DSM/DTM), enabling precise building detection and floor estimation.
- Authored and integrated a novel AI-driven demographic mapping system that has since been adopted by over 12 researchers and analysts across multiple geospatial and urban planning projects.
- Gained hands-on exposure to end-to-end deployment of AI/ML pipelines in a research-grade space technology environment, with practical applications in smart urban development and population intelligence.

ACHIEVEMENTS

- Semi-finalist in Flipkart Grid Robotics 6.0, ranking in top 5% of participants.
- Semi-finalist in Tata Imagination Challenge, competing against 3,12,540 applicants.

PROJECTS

Interpretable AI for Census-Independent Population Estimation leveraging space technology: Developed a deep learning pipeline to estimate population from satellite imagery by detecting buildings using YOLOv8 and incorporating elevation data (DSM & DTM) to infer floor counts. Achieved over 90% accuracy and built a GUI for real-time input and visualization. [\[link\]](#)

OCR-Based Product Info Extractor: Built a standalone executable application that captures product images via webcam and extracts key information like MRP and manufacturing date using OCR and image processing, with 92%+ text recognition accuracy. [\[link\]](#)

Fruit Freshness Detection: Created a real-time webcam-based system that identifies fruits (banana, apple, orange, guava) and estimates freshness as a percentage using machine learning techniques, achieving ~90% classification accuracy. [\[link\]](#)

Blood Group Detection Device: Designed and built a non-invasive Blood Group Detection Device using Raspberry Pi, achieving 95% accuracy in determining blood type by analysing light absorption from a fingertip with laser-based transmission and light sensors, eliminating the need for blood samples.

SKILLS

Languages: Java, Python, SQL, R, JavaScript, TypeScript, PHP, HTML/CSS.

Frameworks & Libraries: React, Angular, Node.js, Express.js, Spring Boot, Flask, FastAPI, Django, TensorFlow, PyTorch, YOLOv8, scikit-learn, OpenCV, pandas, NumPy, Matplotlib, NLTK, dplyr, rasterio, GDAL, Tesseract OCR, Tkinter.

Databases: MySQL, PostgreSQL, MongoDB.

Cloud & DevOps: AWS, Docker.

Core Competencies: Machine Learning, Deep Learning, NLP, OCR, LLMs, Image Processing, Object Detection, Geospatial Analysis, Recommendation Systems, Time Series Forecasting (LSTM), Feature Extraction, Graph Algorithms.

Soft Skills: Teamwork, Leadership, Time management, Work ethic, Attention to detail, Creativity, Adaptability.

Communities: Google Developer Groups (2023–Present).

CERTIFICATIONS

Oracle Cloud Infrastructure Generative AI Professional.

Google Cloud Computing Foundations.

Accenture Data Analytics And Visualization Simulation.