

Chaganti Venkatarami Reddy

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EDUCATION

- **Indian Institute of Information Technology Sonapat** Haryana, India
• *Bachelor of Technology - Computer Science & Engineering; CGPA: 9.57/10.00* December 2020 - May 2024
• *Relevant Coursework: Programming, Data Structures, Algorithms, Databases, OS, Web Dev, ML, Soft Computing*
- **Board of Intermediate Education** Andhra Pradesh, India
• *MPC; GPA: 9.75/10.00* April 2018 - March 2020

EXPERIENCE

- **Mahindra University** Hyderabad, India
• *Research Assistant* February 2024 - Present
 - Implemented **Wavelet Generative Adversarial Networks (WGANs)** to augment limited EEG datasets for motor imagery classification, boosting BCI system accuracy to **72%** and providing more signal(synthetic) data for training.
 - Pioneered transformer-based NLP framework for Judgement prediction (**82% accuracy**), implementing **GPT-powered data labeling** and **HPC-accelerated training** through automated pipelines
 - Streamlined NLP model deployment via **Docker** containerization, ensuring consistent cross-platform execution and scalable cloud integration
 - Architected **Q-learning traffic optimization** system reducing urban congestion by **40%** while improving flow efficiency (**+25%**) and lowering wait times (**15% reduction**)
 - Automated web metric analysis using Python, boosting evaluation throughput by **30%** while elevating quality benchmarks by **15%**
- **IIT Bombay - Machine Learning Research Intern** Hybrid
• *Project: Aadhar Masking - PDF Edition* October 2022 - April 2023
 - Engineered computer vision-based **Aadhar masking** system using **Python, OpenCV**, and OCR tools, achieving a **20% improvement** in processing speed. Designed a **mathematical rotational algorithm** to accurately track and mask numbers from all orientations.
 - Automated PDF processing workflows with **bash scripting**, cutting manual intervention by **40%**
- **Feynn Labs - Machine Learning Intern** Hybrid
• *Project: EV Market Segmentation in India* April 2022 - June 2022
 - Directed 3-member team in building predictive segmentation model (**87% accuracy**), deploying **Flask API** endpoints for real-time EV market analytics

PROJECTS & CONTRIBUTIONS

- **Image Segmentation with PSO:** Deployed a **Dockerized PSO algorithm** for image analysis, achieving **80% accuracy** with **10% runtime reduction**. Tech: Python, OpenCV, HPC [**IIIT Sonapat, May 2023**] - [GitHub](#)
- **Monkey Detection:** Developed a **Flask-based API** for deploying a **YOLOv7-powered computer vision model**, achieving an **F1-score of 0.82** on monkey detection. Designed an automated alert system to trigger alarms upon detecting monkey intrusions in agricultural fields. Tech: Python, YOLOv7, OpenCV, Flask. [**IIT Bombay, Sept 2022**] - [GitHub](#)
- **Face Mask Detector:** Trained a **computer vision model** for detecting face masks in **static images and real-time video streams**, achieving **99.2% accuracy**. Tech: Python, OpenCV, Keras. [**IIIT Sonapat, Nov 2021**] - [GitHub](#)

PUBLICATIONS

- **Abhijit, M. & Chaganti, V. R., et al.** *Optimizing Traffic Signal Control Using Reinforcement Learning* - Accepted at *Proceedings of the 9th International Conference on SoCTA 2024* (**Springer Nature**).
- **Chaganti, V. R. & Rahul, J., et al.** *Blockchain-driven Roundabout Production Network: Ensuring TTT in Agri-Food Supply Chains* - Accepted at *Proceedings of the International Conference on HITA 2024* (**LNNS, Springer Nature**).
- **Chaganti, V. R. & Mukesh Mann, et al.** *Improving Web Page Quality through Empirical Analysis of Web Metrics* - Accepted at *Proceedings of the International Conference on HITA 2024* (**LNNS, Springer Nature**).

SKILLS SUMMARY

- **Languages:** C, C++, **Python**, SQL, HTML, CSS, JavaScript, Bash
- **Frameworks:** **TensorFlow**, **PyTorch**, OpenCV, YOLO, Pandas, Numpy, Matplotlib, Flask, StreamLit, **Git**, FastAPI
- **Technical Skills:** Scripting, **Docker**, Debugging, **Linux/Windows**, Deep Learning, Agile, Gitlab CI/CD, Data Engineering

ACHIEVEMENTS

- Awarded the **Gold Medal** for achieving a CGPA of 9.57/10 in B.Tech CSE.
- Secured **1st place** in NPCI Hackathon (Kaggle) with a 2-member team (score: 0.995; 100+ teams).
- Ranked in the **top 2%** in JEE Mains (All India) among 1.5M+ candidates. (2020)