MADADAPU HEMANTHSAI

508-558-9914l | madadapu.h@northeastern.edu | linkedin.com/in/hemanth1403 | github.com/hemanth1403

EDUCATION

Northeastern University — Boston, MA
Master of Science in Artificial Intelligence; GPA: 3.1/4.0 — *Jan. 2025 – May 2027*

MLR Institute of Technology — Hyderabad, India
Bachelor of Technology in Computer Science - AI&ML; GPA: 8.65/10.0 — *Aug. 2020 – May 2024*

IIIT Hyderabad — Hyderabad, India
AI/ML Training Program - Certificate of Proficiency — *Aug. 2023 – Apr. 2024*

EXPERIENCE

Project Lead - AI/ML Engineering — Jan. 2024 – Dec. 2024
Indian Air Force Academy — *Hyderabad, India*
- Led FOD detection vehicle prototype using NVIDIA Jetson Xavier NX, achieving 93% precision, 88.2% recall, 90.6% F1-score at 21 FPS
- Optimized YOLOv8 through hyperparameter tuning for edge deployment, reducing false positives by 35%
- Integrated e-con cameras with autonomous EV platform for stable detection across varying conditions

AI/ML Student Trainee — Apr. 2023 – Feb. 2024
iHub-Data, IIIT Hyderabad — *Hyderabad, India*
- Completed 11-month program covering SVMs, neural networks, deep learning, and probabilistic models
- Implemented 14 ML algorithms with hands-on projects in gradient descent, clustering, and PCA

Machine Learning Intern — Mar. 2023 – Jun. 2023
Scalenet — *Remote, USA*
- Built data pipeline for 10,000+ images using LabelImg, AWS S3, and MongoDB for product metadata
- Increased training dataset 3x through augmentation; reduced data retrieval time by 60%

Robotics Engineering Intern — Mar. 2022 – Jun. 2022
H-Bots Robotics — *Hyderabad, India*
- Developed greeting robot with OpenCV/SVM facial recognition, improving accuracy by 15%
- Integrated servo motors and temperature sensors; reduced processing time by 25%

PROJECTS

Driver Assistance System | GitHub | *Python, OpenCV, TensorFlow, Edge AI* — Nov. 2023 – Apr. 2024
- Built ADAS with lane detection, collision warning, drowsiness detection (92% accuracy), and SOS alerts

Agricultural Surveillance Robot | *ROS, Computer Vision, IoT* — Sep. 2022 – Aug. 2023
- Developed autonomous rover for crop monitoring using CNN-based disease detection (89% accuracy)

RESEARCH & PUBLICATIONS

Patents Filed (Indian Patent Office)
- Crop Monitoring with AI-based Autonomous Farm Rover (Application No. 202341038965 A)
- Driver Assistance System with Multi-Modal Sensing (Application No. 202341076488 A)
- IoT-based Intelligent Vehicle Safety System (Application No. 202341067751 A)
- IoT-Sensor-based Plant Disease Diagnosis (Application No. 202341067757 B)
- Prediction of Birds and Analysis of Endangered Bird Species (Application No. 202341067754 A)

Published Research
- ICCCI 2023 - "IoT and ML-based Interactive Robot for Enhanced Human-Machine Interaction" - 14th International Conference on Computational Collective Intelligence, Vietnam

TECHNICAL SKILLS

Languages: Python, C++, SQL, JavaScript, HTML5, CSS, Git/GitHub
ML/AI: TensorFlow, PyTorch, Keras, scikit-learn, OpenCV, NumPy, Pandas, YOLOv8, CNN, ROS
Edge/Cloud: NVIDIA Jetson Xavier NX, Raspberry Pi, AWS (EC2, S3), Docker, MongoDB, TensorRT

CERTIFICATIONS

AWS Cloud Practitioner | Python for ML (Great Learning) | AI-ML Training (IIIT) | SAE India AI-ML Level 1