VARUN ANUNSHEEL VIKRAM SHA

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EDUCATION

Northeastern University, Khoury College of Computer Sciences, Boston May 2025
Master of Science in Artificial Intelligence with Specialization in Computer Vision CGPA: 4.0/4.0
Coursework: Pattern Recognition and Computer Vision, Foundations of AI, Algorithms, Programming Design Paradigm

Manipal Institute Of Technology, Manipal, India Oct 2021
Bachelor of Technology in Computer and Communication Engineering with a minor in Soft Computing CGPA: 7.98/10
Coursework: Computer Vision, Artificial Intelligence, Neural Network and Fuzzy Logic, Natural Computing, Cloud Computing, Reinforcement Learning, Algorithms, Database Systems, Object Oriented Programming

SKILLS

Languages:	Java, Python, C++, C, SQL, NoSQL, HTML, CSS, Javascript, Dart, R
Libraries & Frameworks:	PyTorch, Matlab, Tensorflow, Keras, Cuda, Numpy, Spicy, Scikit-Learn, OpenCV, Tableau, NodeJs, Unity, NLTK, Langchain, Llamaindex, Hugging Face, Ollama
Cloud Technologies:	Google Cloud Platform, AWS, Heroku, Azure
Skills:	AI, CV, NLP, Machine Learning, Deep Learning, Data Mining, REST APIs, Augmented Reality, Generative AI, LLMs, Docker, Model Deployment, CICD, Streamlit, Kubernetes

PROFESSIONAL EXPERIENCE

General Electric, Bengaluru, India Jun 2021- Aug 2022
DevOps Engineer - Sourcing & Logistics Team

- Spearheaded a team of 5 to build a chatbot using AWS, Oracle BI publisher and Postman and integrated it into Microsoft Teams to directly retrieve user required data data from the Oracle database resulting in a ~8% reduction in query tickets.
- Investigated and resolved integration bugs in OTM by analyzing Tableau reports and automating issues, resulting in a 10% productivity boost and decreasing tickets raised by ~18%.
- Collaborated with Oracle to build Rest APIs for OTM so multiple other projects can utilize this technology effectively.

General Electric, Greenville, USA Jan 2021 - May 2021
Co–op–OTHSAL, Internship - Lean Performance Management Team

- Identified production inefficiencies leading to an ~11% in waste in Gas Turbines, and implemented lean manufacturing techniques, resulting in a 50% reduction in waste produced and substantial annual cost savings.
- Enhanced factory workers' productivity by 9% through the creation and deployment of the ReactJS based application for lean manufacturing processes using JavaScript, AWS & Mosquito MQTT which is displayed across the production site.

PROJECTS

MLOps with CI/CD Pipeline

- Developed a deep learning-based object detection and segmentation pipeline from scratch with an overall accuracy of 87% that can identify, track, and count multiple objects in real time using Mask R-CNN.
- Deployed on Google Kubernetes Engine (GKE) by creating a Streamlit app and then Dockerizing it. Automated the build and deployment process by linking Cloud Build to the GitHub repository, where GitHub is used for version control. The deployed application can be accessed through an endpoint for testing and use.

Calorie Counter using LLM

- Created a conversational calorie-counter using LLM technology. This user-friendly interface allowed users to easily track their calorie intake through natural language interactions, leading to a 12% increase in daily calorie logging activity.
- The LLM leveraged its knowledge base to provide personalized dietary insights, motivating users to make healthier food choices.

Human Emotion Detection

- Implemented real-time human emotion detection using OpenCV and deep learning techniques. The system achieved an accuracy of 75% in recognizing four basic emotions: happiness, sadness, anger, and surprise.
- The algorithm demonstrated robustness and efficiency by maintaining an accuracy of over 75% under diverse lighting conditions and varying facial orientations. This accuracy is comparable to industry standards for real-time emotion detection systems.

ACHIEVEMENTS & ACTIVITIES

- Secured 2nd position in the annual guild competition held by GE for developing an AR application that displays models of all the parts and working of various production turbines and production centers in real time on the user's screen.
- Obtained certification in the courses, including First Principles of Computer Vision, Natural Language Processing in TensorFlow, Neural Networks and Deep Learning and Introduction to Deep Learning offered by universities and an education technology company like DeepLearning.AI, Columbia University and HSE University in Coursera, 2019 – 2021.
- Headed a student project called Vision that works to build a Mixed Reality (MR) Headset by getting sponsorships and actively participated in recruiting new team members.
- Managed more than 100 students and publicized the festivals in artistic ways as the Head of Publicity and Printing Category for both the cultural fest 'Revels' held in 2020 and the technical fest 'Techtatva' 2019 organized by Manipal Institute Of Technology.