Nitin Reddy Yarava

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EDUCATION

Arizona State University **Tempe, AZ**
Master's of Science, Computer Science | GPA: 3.5 **May 2025**
Coursework: Biomedical Image Analytics, Artificial Intelligence, Statistical Machine Learning

G.I.T.A.M University **Bengaluru, India**
Bachelor's of Technology, Computer Science and Engineering | GPA: 8.8 **May 2023**

SKILLS

Programming Python (PyTorch, Numpy, Pandas, Matplotlib, Scipy, SciKit-Learn), C, C++, bash/shell scripts
Areas Machine Learning, Deep Learning, Machine Learning with Graphs, Data Analytics

ACADEMIC PROJECTS

Research Project: Learning Anatomically Consistent Embedding for Chest Radiography - *ASU* **Sep - Present 2024**
- Reproduced state-of-the-art results from the paper "Learning Anatomically Consistent Embedding for Chest Radiography" using the PEAC model, on the CheXpert dataset with nearly 250,000 images for classification and segmentation tasks.
- Achieved anatomically consistent embeddings for chest X-rays through self-supervised learning, leveraging advanced transformer architectures like Swin Transformer to improve performance on large-scale medical datasets.

Link Prediction in Drug-Drug Interaction Networks using GNNs - *Graph Neural Networks* **Sep - Present 2024**
- Implemented GraphSAGE for predicting drug-drug interactions on the OGBL-DDI dataset, achieving 92% accuracy and Hits@20 of 0.39 by integrating a Neural Link Predictor for enhanced performance.
- Enhanced node embeddings with graph statistics like PageRank, Clustering Coefficient, and Betweenness Centrality; utilized skip-connections and advanced post-processing layers, significantly improving model accuracy from baseline.

Solving the Traveling Salesman Problem Using Graph Neural Networks - *GNNs* **Sep 2024**
- Built a hybrid model combining Graph Transformers and Residual Gated GCNs to optimize node and edge embeddings, using beam search to generate valid TSP tours from predicted edge probabilities.
- Achieved competitive performance by minimizing the optimality gap, with potential for reinforcement learning to enhance model capabilities without reliance on labeled data.

Research Study: Wildlife Detection on Aerial Images - *ASU* | *Link* **Jan - May 2024**
- Developed a novel CBAM-YOLO architecture and recreated the SE-YOLO model, conducting a comparative analysis that achieved a higher mean Average Precision (mAP) of 0.976 versus 0.972 from the original paper.
- Evaluated multiple configurations, highlighting challenges in replicating original architectures and emphasizing the importance of experimentation for effective model evaluation.

EXPERIENCE

Classroom Maintenance Aide | *Part-time, ASU* **Oct- Present 2024**
- Maintain classroom facilities by conducting routine inspections, ensuring cleanliness and safety, reporting maintenance needs, and preparing classrooms for classes while collaborating with staff to enhance operational efficiency.

Microsoft - Future Ready Talent | *Intern* **Mar - Sep 2022**
- Completed a virtual internship focused on Cloud Computing, Artificial Intelligence, and Cybersecurity using Microsoft Azure and GitHub for collaborative project work.
- Developed and deployed a solution for a real-world industry problem, gaining hands-on experience with cloud infrastructure, data management, and deployment strategies.

LEADERSHIP & INVOLVEMENT

Team Leader, Ideation Challenge | *Prerana Event, G.I.T.A.M University* **Feb 2020**
- Secured 4th place out of 32 participating teams by leading the team in presenting a novel idea.

Team Leader, Line Following Bot Workshop | *G.I.T.A.M University* **Dec 2019**
- Led a team of four to secure 2nd place in a competition testing the line following bots on various tracks and scenarios.

Volunteer, O2 Club | *G.I.T.A.M University* **2019 - 2023**
- Organized tree-planting events, raised environmental awareness in local schools and communities, and participated in neighborhood cleanup efforts to promote sustainability.