Venkatarao Rebba

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SUMMARY

First-year Master student in Robotics and Autonomous Systems with 5+ years of experience in deep learning, machine learning, computer vision, and software development technologies. Seeking summer internship opportunities in Robotics, deep learning, and computer vision.

Area of Interest: Robotics, Deep Learning, Reinforcement Learning, and Computer Vision

EDUCATION

M.S in Robotics and Autonomous Systems (AI)	Expected May 2023
Arizona State University, Tempe, AZ	3.7 GPA
Relevant Coursework: Artificial Intelligence, Reinforcement Learning	
Bachelors in Electronics and Communication Engineering	June 2012 - May 2016
Rajiv Gandhi University of Knowledge Technologies, Nuzvid, AP, India	8.8/10 GPA

TECHNICAL SKILLS

Programming Languages	: Python, C, C++, Java
Frameworks, Libraries	: TensorFlow, Keras, PyTorch, openCV, openAI-Gym, ROS, Gazebo, Rviz, Carla, Flask, Docker, MATLAB, Scikit Learn, Pandas, Matplotlib, NumPy, git, MySQL

PROFESSIONAL EXPERIENCE

Cerium Systems, Bangalore, India: Senior Machine Learning Engineer   06/2018 - 08/2021
- Led AI team of 4 members to build CNN, RNN, GAN models for video and audio quality assessment problems for Intel platforms & drivers verification.
- Re-designed CNN model for video quality verification that reduced model size from 2GB to 440MB (465%), and improved training and inference performance significantly
- Created Auto-ML stack for training and tuning audio model that facilitates to build a model 10x faster
- Optimized audio data pre-processing mechanism, reduced overall training time for a model from 5hrs to 2hrs (250%)
- Boosted inference performance from 20 images/sec to 60 images/sec (300%)

Vassar Labs, Hyderabad, India: Software Engineer   01/2016 - 04/2018
- Implemented two machine learning models to forecast the rain probability in Andhra Pradesh state, India
- Developed linear regression model to impute the missing data for the size of 100k samples.
- Worked in full-stack development for creating three dashboards and two android applications
- Created 20 REST APIs by fetching and processing data from the MySQL database for dashboard development

PROJECTS

Multiple objects 3D reconstruction from a single RGB image – Academic Project   10/2021–1/2022
- By leveraging CoReNet model, constructed 3d model of household objects from RGB image. Used datasets of ShapeNet and Pix3D for training purpose.

Pacman Agent using Monte Carlo Tree Search (MCTS) Algorithm – Academic Project   09/2021 – 12/2021
- Implemented an AI agent that eats food while escaping the ghosts in the pacman environment. Compared MCTS performance with Expectimax, Alpha-Beta and Min-Max agents.

Autonomous Driving Car Using Imitation learning – Academic Project   08/2021 – 12/2021
- Developed an autonomous driving agent using imitation learning technique, Generative Adversarial imitation learning in OpenGym environment. The agent achieved average reward of 700, which was very close to expert's reward – 800.

Video Audio Anomaly Detection and Debugging (VAADD) Tool   06/2019 – 12/2020
- Designed a CNN model and a LSTM model for quality assessment of video content.
- Devised 3D CNN + LSTM model for audio quality verification, the achieved accuracy was 97%
- Deployed all the models to production machine using Flask + Gunicorn + Nginx + Docker

Optical Character Recognition using deep learning techniques   01/2019–05/2019
- Built a CRNN model to detect and extract numbers from an image, trained using CTC loss. Models were deployed to automate the fetching of score from games and workbenches.

Image Anomaly detection using GAN   06/2018 – 12/2018
- Created an anomaly detection model to detect the corruptions frames in a video using Generative Adversarial Network. Achieved F1-score of 0.90.