MANI DEEP CHERUKURI

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WORK EXPERIENCE

MeritTrac Services Pvt. Ltd.

Senior Software Development Engineer

Aug 2020 - Aug 2022 Bangalore,India

- Worked towards designing database schema, back-end logic and contributed towards the web application development of large-scale algorithms used for question paper generation and score calculation using Java frameworks like Spring, Spring Boot and Hibernate.
- Worked in the field of Computer Vision and Machine Learning by developing and optimizing a scalable CNN model using TensorFlow for real-time image classification and visual similarity for live exam proctoring.

Formula Manipal

Controls System Technical Lead

Feb 2017 - Jan 2020 Manipal,India

- Actively contributed towards the research and development of electric and driverless race car to participate in various FSAE events.
- Worked on various shell scripts for creating GUI applications to perform data acquisition and telemetry using Beagle Bone Black Controller.

Publications:

Battery Management System Design for Electric Vehicle, IEEE DISCOVER 2019

- Designed a Battery monitoring system with the purpose of logging and building telemetry applications. The work was later extended to predict the State of Charge (SoC) with the help of neural networks. Link

RESEARCH INTERESTS

- Perception and path planning under Uncertainty, Gesture and sign language recognition, Reinforcement learning in video games, Multi-agent and multi-robot systems, Sensor fusion, Autonomous vehicles and systems, Machine learning, Computer vision, Deep learning, Robotics, Technology for social good.

TECHNICAL SKILLS

- Programming Languages: Java, Python, C++, SQL, R, php.
- Tools: Visual Studio, Google Colab, Jupyter Notebook, Eclipse, PyCharm, MySQL workbench, RStudio

PROJECTS

AI-based Remote Proctoring System

- Used ArcFace model to re trained on LFW datasets with a re-implementation accuracy of 99.40%. API's were developed to calculate the similarity score based on the cosine distance from base face and exam face embeddings and integrated to the test player of the system.

Transfer Learning on Atari Games and Image Classification using DQN

- Studied transfer learning techniques and conducted research on various state of art training algorithms which include DQN, DDQN and A2C for transferring the knowledge from parent game to child game.

Computerized Adaptive Testing (CAT) using Naive Bayern Classifier

- Conducted research on various machine learning approaches to integrate adaptive testing feature into the question paper generation based on the score of the previous sets.

State of Charge Estimation using Back propagating Neural Network

- As the SoC could not be calculated directly, a neural net was modelled to estimate the SoC from known parameters such as voltage, current and temperature.

Online Courses:

- Coursera Online : Data Science Specialization by John Hopkin's

EDUCATION

Masters in Robotics

University of Minnesota

Sept 2022 – Present

B.Tech. (Electronics Communication) - 7.25 CGPA

Manipal Institute of Technology, MAHE

Aug 2016 – Aug 2020

Pre-University College - 96.5%

FIITJEE

June 2014 - March 2016