SUPRIYA MANDAL

@ supriyam@iisc.ac.in @ iamsupriya1001@gmail.com +91 8617362403
www.github.com/supriyo97 www.linkedin.com/in/supriya09/
https://supriyo97.github.io/ live:supriyo1997

PROFILE

Always keen to learn the most efficient approach to solve any new problem. Have a hands-on programming experience in Python and C++. Currently working on a computer vision problem in our lab at IISc. Enthusiast in Machine Learning, Deep learning research and want to pursue a career in the future.

PROJECT

Research Thesis : Continual Learning in Video Anomaly Detection

Ongoing

- I'm working on the video anomaly detection problem, which is a very challenging computer vision problem. On top of this problem, I'm using a continual learning approach, which will help to learn the model, **even if a new type of anomaly comes** that would not be seen (trained) by the model before. The main objective would be to help the model learn **without forgetting previous knowledge** (weights). To tackle this, I will use different kinds of continual learning methods, such as Replay, Meta learning approaches etc.

Face recognition with limited data

April 2022

Team : Supriya Mandal

- I have used Labelled Faces in the Wild(**LFW**) face dataset where some people have a single image and some have multiples. To deal with fewer data samples, I have used **Siamese Neural Networks** (SNN), where we can compare two images without training the network again for the new classes. With **5 Layers**(4 convolution and 1 fully connected layer) of CNN architecture and after running multiple experiments, we have got **72.4%** accuracy on test data with 5e-5 learning rate. I have used **TensorFlow**, **Keras**. Also used **Kaggle** for running the experiments on GPUs. Link : `https://www.kaggle.com/code/supriya97/mlsp-project-face-recognition`

Multi-class image classification using various pretrained CNN models

Dec 2021

Team : Supriya Mandal and 4 others

- We worked on **Stanford Car dataset** which has more than **16k images** with **196 classes**. We did data preprocessing by resizing images and used fastai library to do transfer learning for the CNN models we used such as - **AlexNet**, **ResNet50** and **VGG16**. We have used **TensorFlow**, **Keras**. VGG16 has achieved higher accuracy than the other two models. Link : `https://www.kaggle.com/code/vk2407/icaiml-project-shared`

Efficient stepping strategy for standing bipedal robots under external perturbations

Oct 2021 – Dec 2021

Team : Vidhant Sharma and 4 others

- In this project, We used forward and inverse kinematics for getting the desired position of the leg and arm and used inverse pendulum model, such that our robot could balance itself after applying any force on its torso. Also, we used **Neuro-Fuzzy** system for learning strategy and compared it with our actual model. We used **Webots** for all the simulation and controllers(in C language) and also used **MATLAB** for Neuro-fuzzy system.

Livestock tracking using LoRa

Jan 2020 – June 2020

Team : Shrinath Nimare and Supriya Mandal

- Implemented a power efficient circuit to keep track of livestock using **LoRaWAN** and **ESP8266** based receiver gateway protocol. Also implemented a GUI **using Tkinter**, to keep track of distance between transmitter and receiver.

TECHNICAL SKILLS

Python	●●●●○
PyTorch/TensorFlow	●●○○○
C/C++	●●●○○
Git	●●●○○
Linux	●●●●○
Latex	●●●○○

MAJOR COURSES

- Machine Learning for Signal Processing
- Data Analytics
- Numerical Linear Algebra
- Intro to Computing for AI & ML
- Foundation of Robotics
- Entrepreneurship for Technical Startups

EDUCATION

Indian Institute of Science (IISc)

M.Tech in Computational and Data Sciences (CDS)

2021-Present | Bangalore

- CGPA : 6

Sathyabama Institute of Science and Technology

B.Tech in Information Technology

2016-2020 | Chennai

- CGPA : 7.99

Gorabazar Iswar Chandra Institution

2011-2015 | Berhampore, WB

- Class XII Aggregate Percentage: 66%
- Class X Aggregate Percentage: 74.43%

AREAS OF INTEREST

Research | Machine Learning | Programming | Robotics

CO-CURRICULAR WORK

- **Cracked ISI Entrance'2020** in MTech CS, also attended the program for few months.
- **Was a Tech Co-ordinator in Rhapsody'22**, did organize a technical hackathon.
- Did a one-month **internship** in **Ashok Leyland** in data preprocessing and cleansing using **Microsoft BI**.
- Was a member of 'Innovation club' at my UG college.
- **Took a workshop** on 'Android App Development' in my UG college.
- Attended a workshop on 'Google Cloud Computing'
- Learning new technologies, listening music, workout, Travelling, Playing Sports (As hobbies).