Sangeeta Satish Rao

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Applying for Master's in Computer Science

LinkedIn
Personal Website

Projects

Prediction of the location of Acute Infarcts in MRI Images **Mar-Apr '20**

- Designed a Convolution Neural Network model to detect the position of acute infarcts in an MRI image with a limited dataset using TensorFlow, Keras and OpenVino. Improved the model accuracy by 40% with data augmentation and hyperparameter tuning.

Hardware Implementation of Video Codec **Sept-Apr '21**

- Designed hardware synthesizable code for video encoding and decoding on Matlab and HLS to achieve an average compression ratio of 21 (higher than standard JPEG compression) using Discrete Wavelet Transform and Zero Tree Wavelet Encoding techniques

Data Science Analysis on Wipro Stocks using R **Nov-Dec '18**

- Analysed various trends and fluctuations with respect to the Wipro stocks over the past 10 years using Time Series Analysis, Principal Component Analysis and Regression Analysis in R and prescribed steps to be taken in order for a financially successful undertaking.

Easy Search Engine using Python **Oct-Nov '20**

- Developed a search engine model using TF-IDF scoring measure to create the inverted index. The model designed includes one-word queries, free-text queries, and phrase queries and ranks the results obtained using cosine similarity.

Driver Alert System Using Raspberry Pi with OpenCV **Jan-Apr'19**

- Developed a driver drowsiness detection model in which an alarm is sounded to alert the driver, if the driver is detected to be asleep at the wheel to prevent road accidents. This was implemented using two key Computer Vision techniques – Eye Aspect Ratio and Facial Landmark Extraction.

Experience

Software Intern, Aruba Networks **Jan-Aug'21**

- Aruba NetInsight uses network analytics to diagnose issues before they are reported and optimize performance to assure the best user experience.
- My contributions to the team include writing python scripts to ensure seamless flow of Oozie jobs and I set up alerts for early detection of deployment errors that helped with quick fixes of the jenkins pipeline.
- Addressed customer issues by consuming telemetry data from thousands of access points which included extensive debugging, memory optimization and log analysis of Spark, Python and Java applications. This opportunity helped me gain wonderful insights into Apache Cassandra, Kafka, Oozie and Kubernetes.

Project Intern, Indian Institute of Science **May-July'20**

- As part of the Solid State Structural Chemistry Unit I developed unique randomized algorithms for computing scientific properties of molecules using the Monte Carlo Method.
- I integrated the Force Bias method with Radial Distributed Functions to see how a given molecule would effectively function keeping energy as the main parameter while analyzing the results.I used parallelisation techniques to optimize the function using Python achieving a speedup of 43%

Software Developer Intern, PayLabs **July-Aug'19**

- I used the Django (Python) framework to build responsive websites and worked on developing specific features to make the website user-friendly and contributed to the design of the webpage.I also helped fix bugs in the code for smooth running of the website.

Education

BTech.(Minor) in Computer Science Engineering , PES University, GPA: 9.2 **2018-2021**

BTech.(Major) in Electronics Communication Engineering, PES University, GPA: 8.97 **2017-2021**

Technical Skills

Python | C | R | Verilog | MATLAB | Scilab | Django | Git | Kubernetes | Oozie | Kafka | Cassandra | Docker

Publications

Sangeeta Satish Rao, Nikunj Phutela, V R Badri Prasad "Empirical Performance Analysis of Conventional Deep Learning Model for Recognition of Objects in 2-D Images ", ELSEVIER-SSRN Digital Library

Awards & Honors

2017-20 CNR Merit Scholarship **Top 20% of the ECE Dept (I II III IV V and VI semesters at PES University)**

2013-15 Best Speaker **English Debate at Sri Aurobindo Memorial School in grades 9,10 and 11**

Volunteering

2017-19 Parikrama Centre for Learning **Involved in teaching and making Resource Packs for underprivileged children**

2017 Swachh Bharat Campaign **Tree Plantation Drive**