Jayanth Shreekumar

Graduate Student, Focus in Machine Learning and AI
University of California, Los Angeles

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Education

Master of Science in Electrical and Computer Engineering — **Los Angeles, CA**
University of California, Los Angeles — Jul 2023
- GPA : **3.95 / 4.0**

Bachelor of Technology in Electronics and Communication Engineering — **Bangalore, India**
PES University — Jul 2020
- Minor in Computer Science. GPA : **9.41 / 10.0**

Experience

Advanced Micro Devices (AMD) — **Austin, TX**
Summer Intern — Jun 2022 - Sep 2022
- Worked on benchmarking 3rd generation AMD EPYC server processors for machine learning workloads.
- Tuning & optimization leading to a **performance increase of 10%**, while decreasing system cost.
- Worked on TPCx-AI single node benchmark and MLPerf DLRM Recommendation Inference benchmark.

Perfios Software Solutions Private Limited — **Bangalore, India**
Technical Intern - Data Science — Jan 2021 - Jul 2021
- Worked on automatic table structure recognition of bank statements using graph neural networks.
- Developed a **sampling algorithm for efficient training** of graph neural networks on tables.
- Built a pipeline to test on new images and to evaluate model performance.

University of California, Los Angeles — **Los Angeles, CA**
- *Graduate Teaching Assistant.* EC 131A Probability and Statistics. — Jan 2023 - present
- *Graduate Teaching Assistant.* EC 101B Electromagnetic Waves. — Apr 2022 - Jun 2022
- *Reader.* EC 123A Fundamentals of Solid State I. — Feb 2022 - Mar 2022

University of California, Los Angeles — **Los Angeles, CA**
Graduate Student Researcher — Oct 2022 - Nov 2022
- **Image registration** of MRI images using deep learning and local all-pass motion field estimation.

Indian Institute of Science — **Bangalore, India**
Summer Intern, CeNSE — May 2019 - Jul 2019
- Built a prototype of a **hearing aid device** consisting of a microcontroller, a microphone, and a speaker.

Technical Skills

Programming Languages : Python · JavaScript · C++ · C
Data Science : PyTorch · Tensorflow · OpenCV · Scikit-Learn
Tools : Matlab · Arduino · LaTeX
Others : MongoDB · MySQL · Linux

Publications

1. Jayanth Shreekumar, Ganesh K Shet, Vijay P N, Preethi S J and Niranjana Krupa, "Improved Viseme Recognition using Generative Adversarial Networks," 2020 IEEE REGION 10 CONFERENCE (TENCON), 2020, pp. 1118-1123, doi: 10.1109/TENCON50793.2020.9293784.

Selected Projects

Image Colorization — Code
- Built four different image colorization models using ResNet, U-Net, and Generative Adversarial Networks.
- Implemented a data loader with appropriate transforms, and an inference script to test on grayscale images.

Visual Speech Recognition, Bachelor's Project — Report
- Improving viseme recognition by utilizing generative adversarial networks as a tool for data augmentation.
- Utilized VGG-16 convolutional neural network for classification. Achieved a **maximum increase in viseme recognition accuracy of** 3.7% **over a baseline accuracy** by using images generated by the PGGAN for data augmentation.

Relevant Coursework

- Computer Vision
- Large-Scale Data Mining
- Matrix Analysis for Scientists and Engineers
- Neural Networks and Deep Learning
- Neural Signal Processing
- Machine Learning