Jayanth Shreekumar

University of California, Los Angeles (UCLA)
New graduate interested in data science and machine learning.
Eager to work in software engineering and development.

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Education

Master of Science in Electrical and Computer Engineering — **UCLA**
• *MS by Project* • *GPA : **3.933 / 4.0*** — Dec 2023

Bachelor of Technology in Electronics and Communication Engineering — **PES University**
• *Minor in Computer Science* • *GPA : **9.41 / 10.0*** — Jul 2020

Industry Experience

Advanced Micro Devices (AMD) — **Austin, TX**
Performance Engineering Intern — Jun 2022 - Sep 2022
- Benchmarked 3rd gen AMD EPYC processors for machine learning workloads using python & bash.
- 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**
Data Science and Machine Learning Intern — Jan 2021 - Jul 2021
- Worked on automatic table structure recognition of bank statements using deep learning in python.
- Developed a sampling algorithm for efficient training of graph neural networks on tables using numpy.
- Built an inference pipeline to test on new images and to evaluate model performance.

Academic Experience

Graduate Student Researcher — **UCLA**
Laboratory for Robust Information Systems (LORIS) — Apr 2023 - Dec 2023
- Using C++ to build algorithms & decoders for a secure communication protocol - quantum key distribution.
- Modelling the quantum key distribution channel using probability, linear algebra, and machine learning.

Graduate Teaching Assistant — **UCLA**
Electrical and Computer Engineering Department — Apr 2022 - Dec 2023
- GTA for · Probability and Statistics · Data Science · Data Storage Systems · Electromagnetic Waves.
- Responsible for discussions, creating examination questions, projects, and homeworks, and grading exams.

Graduate Student Researcher — **UCLA**
Department of Radiation Oncology — Oct 2022 - Nov 2022
- Image registration of MRI images. Generated a demo dataset to perform training of LAPNet network.
- Used the Local All-Pass (LAP) estimation technique to obtain motion field vectors between MRI slices.

Technical Skills

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

Selected Projects

Twitter Data Mining — **Jan 2022 - Apr 2022**
- Extracted tweets about the Superbowl game between Patriots and Sea Hawks and performed lemmatization, feature extraction, dimensionality reduction, and obtained word embeddings.
- Built L1, L2, random forest, and perceptron classifiers to predict fan base of tweets and retweet count.
- Analyzed the results using accuracy, F1 score, and AUC-ROC curves to obtain an accuracy of 90%.

Image Colorization — **Nov 2021 - Jan 2022**
- 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 — **Jan 2020 - July 2020**
- Improving viseme recognition by utilizing generative adversarial networks as a tool for data augmentation.
- Utilized VGG-16 CNN for classification. Work published at DOI: 10.1109/TENCON50793.2020.9293784.

Relevant Coursework

- Computer Vision
- Linear Algebra
- Bayesian Networks
- Data Structures
- Algorithms
- Data Science
- Deep Learning
- Machine Learning
- Speech Processing
- NLP