SHREERAM NARAYANAN

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EDUCATION

University of Southern California — ***Los Angeles, CA*** — **May 2023**
Master of Science, Electrical and Computer Engineering — **GPA: 3.84/4**

Sardar Patel Institute of Technology, Mumbai University — ***Mumbai, India*** — **May 2020**
Bachelor of Engineering, Electronics and Telecommunications — **GPA: 8.69/10**

TECHNICAL SKILLS

- **Programming Languages and OS:** Python, C, C++, Java, JavaScript, HTML, CSS, SQL
- **Libraries and Frameworks:** NumPy, Scipy, Pandas, Scikit-Learn, GluonCV, Apache Mxnet, PyTorch, TensorFlow, Matplotlib, Keras, OpenCV, NLTK, Flask, AngularJS, NodeJS, Apache Spark, Apache Hadoop
- **Databases, Platforms and Cloud Technologies:** MySQL, Docker, AWS (EC2, S3), GCP, MongoDB, DynamoDB

EXPERIENCE

Graduate Student Researcher, CPS-VIDA Lab, University of Southern California — ***Los Angeles, CA*** — **Feb 2023-Present**
- Train a neural network to perform monocular 3D object detection for a real-time perception system

Software Development Engineer Intern, Amazon — ***Irvine, CA, USA*** — **May 2022-Aug 2022**
- Built a web-based UI to serve as a base for tooling for common services workflows
- Engineered solutions in services team at Amazon Game Studios (AGS) and developed a tool that allows end users to request a Steam key for the New World game. Designed an admin dashboard for management of Steam Keys

Machine Learning Engineer Intern, Tericsoft Technology Solutions Pvt. Ltd — ***Hyderabad, India*** — **Jan 2021-Jul 2021**
- Collaborated with a 5-member team on a video analytics project by performing mask and safety-vest detection tasks on CCTV Feeds. The object detection models were trained using Nvidia Transfer Learning Toolkit (TLT), deployed using Nvidia Deepstream intelligent video analytics toolkit
- Led a project to create a spell-check application based on Levenshtein Algorithm to correct names of brands entered by data entry engineers. Application was deployed using Flask API on a Dashboard
- Implemented data science project on customer behavior based on purchase history by employing Apriori Algorithm and constructed a recommendation system using Collaborative Filtering

Deep Learning Engineer Intern, Segmind Solutions Pvt. Ltd — ***Bangalore, India*** — **Jun 2020–Dec 2020**
- Integrated semantic segmentation networks like Feature Pyramid Network (FPN), LinkNet, object detection networks like FasterRCNN, and instance segmentation networks like MaskRCNN in CNN Research Abstraction Python Library (CRAL)
- Part of a 3-member team of a Client Python Library called Segmind Track to enable logging training metrics, system metrics (CPU & GPU), hyper parameters and artifacts of deep learning experiments on a tracking site
- Integrated PyTorch Lightning callbacks into the Segmind Track library for users to track performance of a model trained using PyTorch Lightning Deep Learning Framework

ACADEMIC PROJECTS

Emulated Distributed File System: (Map Reduce, MongoDB, Flask, HTML, CSS) — **Oct 2022**
- Built a Distributed File System (DFS) like Hadoop DFS and implemented various commands. Utilized MongodDB and MySQL to store metadata and actual data of file respectively
- Developed a web application which takes commands from users and displays results on a web page

Code Summarizer - Encoder-Decoder Model for summarizing code: *(*PyTorch, Transformers, Neural Networks) — **Nov 2022**
- Designed an encoder-decoder architecture to generate summaries describing functionality of a code snippet
- Obtained a bleu-4 score of 15.96 and an EM score of 0.4759 on the test set

Trip Expense Management Application: (NodeJS, GraphQL, HTML, CSS) — **Dec 2022**
- Created a web application for expense management for end users and enable uploading media for a trip
- The application is linked with Google Places API and gives an overview of the destination

TrojanMap – Implementing Graph Algorithms to build a map application: *(*Algorithms, Data Structures, C++) — **Mar 2022**
- Executed a Map application using C++ to find coordinates of a location on the map, calculate shortest path between two locations and find nearby places from a given location
- Applied BFS, DFS, Topological Sort to execute features for the application

Generating Monet Style Art using Generative Adversarial Networks: (PyTorch, CycleGAN, Neural Networks) — **Nov 2021**
- Devised a modified CycleGAN architecture model to generate Monet Style photos from Real ones on the Monet2Photo Dataset
- Utilized PyTorch framework to train generator and discriminator CNN models and achieved a Memorization-informed Fréchet Inception Distance score of 55.97 and featured in the Kaggle Competition titled "I'm something of a painter myself"

LEADERSHIP

- Led 4-member team in competition **IICDC-Texas Instruments** and reached the finals (Top 30) — **Aug 2018-Jun 2019**
- Volunteered beach cleanup drives at Versova beach and conducted blood donation camps as Member of Rotaract Club of Thane North End (RCTNE) — **Jun 2016-Jun 2017**