

## SHREERAM NARAYANAN

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### EDUCATION

<b>University of Southern California</b> <i>Master of Science, Electrical and Computer Engineering</i>	<b>Los Angeles, CA</b>	<b>May 2023</b> <b>GPA: 3.84/4</b>
<b>Sardar Patel Institute of Technology, Mumbai University</b> <i>Bachelor of Engineering, Electronics and Telecommunications</i>	<b>Mumbai, India</b>	<b>May 2020</b> <b>GPA: 8.69/10</b>

### 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 Technologies:** MySQL, Docker, AWS (EC2, S3), GCP, MongoDB, DynamoDB, Unity

### EXPERIENCE

<b>Graduate Student Researcher, CPS-VIDA Lab, University of Southern California</b>	<b>Los Angeles, CA</b>	<b>Feb 2023-Present</b>
<ul style="list-style-type: none"><li>• Trained a neural network to perform monocular 3D object detection for a real-time perception system</li><li>• Collaborated on designing a 3D simulator in Unity and extracted RTLS data for training, evaluating, and verifying perception system</li></ul>		
<b>Software Development Engineer Intern, Amazon</b>	<b>Irvine, CA, USA</b>	<b>May 2022-Aug 2022</b>
<ul style="list-style-type: none"><li>• Built a web-based UI to serve as a base for tooling for common services workflows</li><li>• 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</li></ul>		
<b>Machine Learning Engineer Intern, Tericsoft Technology Solutions Pvt. Ltd</b>	<b>Hyderabad, India</b>	<b>Jan 2021-Jul 2021</b>
<ul style="list-style-type: none"><li>• 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</li><li>• 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</li><li>• Implemented data science project on customer behavior based on purchase history by employing Apriori Algorithm and constructed a recommendation system using Collaborative Filtering</li></ul>		
<b>Deep Learning Engineer Intern, Segmind Solutions Pvt. Ltd</b>	<b>Bangalore, India</b>	<b>Jun 2020-Dec 2020</b>
<ul style="list-style-type: none"><li>• 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)</li><li>• Incorporated PyTorch Lightning callbacks into Client Python Library called Segmind Track library for users to track performance of a model trained using PyTorch Lightning Deep Learning Framework</li></ul>		

### ACADEMIC PROJECTS

<b>Emulated Distributed File System: (Map Reduce, MongoDB, Flask, HTML, CSS)</b>	<b>Oct 2022</b>
<ul style="list-style-type: none"><li>• Built a Distributed File System (DFS) like Hadoop DFS and implemented various commands. Utilized MongoDB and MySQL to store metadata and actual data of file respectively</li><li>• Developed a web application which takes commands from users and displays results on a web page</li></ul>	
<b>Code Summarizer - Encoder-Decoder Model for summarizing code: (PyTorch, Transformers, Neural Networks)</b>	<b>Nov 2022</b>
<ul style="list-style-type: none"><li>• Designed an encoder-decoder architecture to generate summaries describing functionality of a code snippet</li><li>• Obtained a bleu-4 score of 15.96 and an EM score of 0.4759 on the test set</li></ul>	
<b>Trip Expense Management Application: (NodeJS, GraphQL, HTML, CSS)</b>	<b>Dec 2022</b>
<ul style="list-style-type: none"><li>• Created a web application for expense management for end users and enable uploading media for a trip</li><li>• The application is linked with Google Places API and gives an overview of the destination</li></ul>	
<b>TrojanMap – Implementing Graph Algorithms to build a map application: (Algorithms, Data Structures, C++)</b>	<b>Mar 2022</b>
<ul style="list-style-type: none"><li>• 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.</li><li>• Applied BFS, DFS, Topological Sort to execute features for the application</li></ul>	
<b>Generating Monet Style Art using Generative Adversarial Networks: (PyTorch, CycleGAN, Neural Networks)</b>	<b>Nov 2021</b>
<ul style="list-style-type: none"><li>• Devised a modified CycleGAN architecture model to generate Monet Style photos from Real ones on the Monet2Photo Dataset</li><li>• 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”</li></ul>	

### LEADERSHIP

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