

Shashank Nelamangala Sridhara

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EDUCATION

- **University of Southern California, Los Angeles, USA** *Jan 2021-Dec 2025*
Doctor of Philosophy - Ph.D in Electrical Engineering **GPA: 3.90/4.0**
- **University of Southern California, Los Angeles, USA** *August 2019-May 2021*
Master of Science(Honors) in Electrical Engineering **GPA: 3.90/4.0**
- **Sri Jayachamarajendra College of Engineering, Mysore, India** *August 2013-May 2017*
Bachelor of Engineering in Electronics and Communication Engineering **GPA: 9.2/10.0**

COURSEWORK

Machine Learning from Signals (EE-660), Advanced Computer Vision (CSCI-677), Digital Image Processing (EE-569), Mathematical Pattern Recognition (EE-559), Linear Algebra (EE-510), Probability Theory (EE-503), Digital Signal Processing (EE483), Wavelets and Graphs (EE596)

PUBLICATIONS

- **Cylindrical coordinates for LiDAR point clouds.** Advisor - Dr. Antonio Ortega, USC. *Jan 2021*
 - Proposed a new voxelization technique for LiDAR point clouds from autonomous vehicles which improves the performance of existing state of the art point cloud compression methods by 30%
 - The paper (first author) will be presented at **International conference on Image Processing-2021**
- **Bias field correction in 3D MRIs using autoencoders.** Advisor - Dr. Anand Joshi, USC. *August 2020*
 - Conceptualised and implemented a convolutional autoencoder for bias-field correction in 3D MRIs
 - The proposed deep learning technique outperformed traditional methods and increased the tissue classification accuracy by 8%
 - The paper (first author) was presented at **SPIE Medical Imaging conference -2021**
- **An Image processing approach for compression of ECG signals.** Advisor - Dr. Shreekanth. *August 2018*
 - Proposed an image processing approach to compress ECG signals using Run length Encoding (RLE) and wavelet transform.
 - The proposed method achieved an average compression ratio of 22:1 and was presented at **ICERECT-2018**

WORK EXPERIENCE

- **Viterbi School of Engineering - Research Assistant** *Jan 2021 - Present*
 - Working as a research assistant under Dr. Ortega where I am involved in the projects funded by NSF and KDDI.
- **Viterbi School of Engineering - Course grader (Part time)** *Jan 2020 - Dec 2020*
 - Served as a course grader for **Introduction to Probability and Statistics (EE364)** and responsible for writing solutions and grading weekly assignments.
- **Allstate India - Application developer** *August 2017 - June 2019*
 - Designed and implemented a new approach to remediate the iframe implementation in the Advisor Pro application.
 - Developed a React library which can render data-table with pagination and export data as CSV. The library has more than 100 downloads in npm and Allstate Artifactory
- **Indian Space Research Organization - Project Trainee** *Juan 2017 - May 2017*
 - Examined the Simulation of Mathematical Model of tornadoes to provide mapping on Velocity Azimuth Display.

PROJECTS

- **Motion Capture Based Hand Posture Recognition.** Python. *May 2020*
 - Classified 5 types of hand postures using a dataset from UCI Machine Learning repository by developing different multi-class classifiers
 - Performed cross-validation to make the model robust and obtained accuracy of 92.93% and F1 score of 91.96%.
- **Higgs Boson Machine learning challenge.** Python. *Dec 2020*
 - Used simulated dataset of 800,000 proton collision events released by CERN to classify the events forming Higgs boson against rest of the events
 - Secured a rank of 1190 in Kaggle with an AMS score of 2.83

HONORS & AWARDS

- USC ECE MS Honors program for excellent academic performance