# SRINIDHI KALGUNDI SRINIVAS

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## EDUCATION

**University of California San Diego** — **San Diego, CA**
*Master of Science (M.S) in Electrical and Computer Engineering* — *Sept 2021 – Jun 2023*
*Intelligent Systems, Robotics and Control*
Relevant Courses: Deep Generative Models, Statistical Learning, Image Processing and Computer Vision, Mathematics for Robotics, Sensing and Estimation in Robotics

**PES Institute of Technology (PESIT)** — **Bangalore, India**
*Bachelor of Engineering in Telecommunication Engineering. GPA:* ***9.36/10*** — *Aug 2014 – Jun 2018*
Courses: Linear Algebra, Probability and Random Processes, Signal and Image Processing

## SKILLS

**Languages:** Python, C/C++, C#, Lua
**Software & Tools:** PyTorch, Tensorflow, Scikit learn, OpenCV, MATLAB, Git, Jira, Confluence, JAMA
**Peripherals**: I2C, SPI, UART, USB, SPORT

## EXPERIENCE

**Autonomous Vehicle Laboratory, UC San Diego** — **San Diego, CA**
*Graduate Student Researcher (Website)* — *Nov 2021 – Present*
- Current research involves road network estimation based on the key points in the image frame and dynamic scene modelling for autonomous driving in urban environments– supervised by Dr. Henrik I. Christensen
- Currently involved with dataset creation and analyzing human pose estimation deep learning models for extension to road network estimation

**Analog Devices Inc (ADI)** — **Bangalore, India**
*Senior Software Engineer, Infotainment, Processing and Connectivity Group* — *Aug 2018 – Aug 2021*
- Designed and developed software stack for next generation infotainment product – *Automotive Audio Bus ($A^2B$) on ADI's DSPs*
- Developed high quality MISRA-C compliant software for infotainment applications on ADI Digital Signal Processors
- Implemented **High-Definition Content Protection** (HDCP v2.3) on BlackFin DSP, played a prominent role in latency reduction by optimizing buffering schemes for transmission of non-content protected audio data over $A^2B$
- Developed GUI to enable customers analyze the automotive audio network comprising of $A^2B$ transceivers with PC as a host
- Enabled customers with Proof of Concepts (PoCs) to quickly analyze system requirements for applications involving the $A^2B$
- Designed and developed ***Software Over the Air Update*** over $A^2B$ using Unified Diagnostics Services protocol. Demonstrated and presented the demo in **Global Technical Conference, May 2021** and **India Technical Conference, Aug 2020**
- Performed Configuration Management of the project adhering to ASPICE standards
- Mentored 2 New College Graduates and helped them upskill in development activities. Awarded **Spot Award** for contribution to the $A^2B$ project/team in Dec 2020

## PROJECTS

**Lattice Light Sheet Microscope Image Segmentation using Deep Learning, *UC San Diego*** — *Jul 2021 – Jul 2021*
Github
- Segmented microscope image (TIF format) of size 57x445x445 by using U-Net architecture with Tensorflow
- Created a training model from similar images as the microscope images were novel
- Generated training masks using ImageJ software
- Measured Intersection over Union (IoU) metric for different patch sizes of the test image and compared the performances

**Steady State Visually Evoked Potential Based Brain Computer Interface, *PESIT*** — *Jan 2018 – May 2018*
- Built a system using OpenBCI's Cyton Board to acquire EEG signals and control a three-command game
- Performed EEG signal pre-processing and extracted relevant features
- Compared accuracies of SVM, Relevance Vector Machine and LDA algorithms for command classification using confusion matrix

**Security in Sensor Networks, *Microsoft Mobile Innovation Lab*** — *Jun 2015 – Jul 2015*
- Implemented an encryption algorithm to secure the data being transmitted between the nodes involved in the network
- Performed encryption and decryption algorithms on PIC Microcontroller

## PUBLICATIONS

Swathi Bhat, Sushmitha S, **Srinidhi Bharadwaj**, Niranjana Krupa. ***"Steady State Visually Evoked Potential Based Brain Computer Interface for Game Control"***. Third International Conference on Electrical, Electronics, Communication, Computer Technologies and Optimization Techniques. Mysore, India. Dec 18 (Co-presented by: Srinidhi, Sushmitha)
https://ieeexplore.ieee.org/document/9001590