SONALI BOKIKERE SREEDHAR

github.com/sbsreedh linkedin.com/in/sonali-b-s/ sbsreedh@usc.edu
Los Angeles, CA (323)-620-9291

EDUCATION

University Of Southern California,Los Angeles **January 2019 - Present**
Master of Science in Electrical Engineering GPA: 3.7/4
Focus Area: Data Science and Computer Vision
Relevant Coursework: Computer Vision,Deep Learning, Digital Signal Processing, Machine Learning,Stochastic Processes, Mathematical Pattern Recognition, Probability and Statistics, Applied Linear Algebra

PES Institute of Technology, Bengaluru, India **August 2013 - May 2017**
Bachelor's of Engineering in Electronics and Communications Engineering GPA: 8.96/10

SKILLS

Computer Languages C/C++,Python, MATLAB ,Verilog HDL
Software & Tools MATLAB, CCES,Tensorflow, Keras, Sci-kit Learn,OpenCV,NumPy,Pandas,Caffe,PyTorch, MXNet

EXPERIENCE

CEDARS SINAI MEDICAL CENTRE, LA | Summer Intern **May 2019 - Present**
- Developed interface to annotate tissues using **MATLAB** for data collection and generation of **CNN modelling**.

ANALOG DEVICES PVT LTD, INDIA| Application Engineer **June 2017 - July 2018**
- Developed test plan and performed Post Silicon validation test for AD2428 product of **Automotive Audio Bus** (A2B) project.
- Designing and debugging of test hardware and software for test products.
- Performed Error Management analysis of the product AD2428 to identify fatal errors using ***Sigma-Studio*** and ***MATLAB***.
- Performed detailed technical review on new products' ***Programming Reference manual***, ***Data Sheets*** and ***Application Notes***
- Performed ***EYE measurement*** of high speed digital signal .Performed product feature specific tests using *Audio precision , spectrum analyzers,SPI and I2C analyzers* and other general RF equipments.Performed Schematic and Layout review.
- Led technical review meetings with domestic and international customers.Prioritized inquiries of customers. Mentored interns.
- Provided customer support for AD2428 as well as legacy products. Solved 200+ queries on A2B from customers worldwide.

ANALOG DEVICES PVT LTD,INDIA | Application Engineer Intern **January 2017 - June 2017**
- Performed noise and error rate analysis of the slave to slave communication.
- Provided customer support on product AD2425. Performed detailed technical review on new products technical documents.

BHARATH ELECTRONICS LTD , INDIA | Summer Intern **May 2016 - July 2016**
- Designed an Antenna actuation control system for a Air-Craft Carriers in the Navy by implementing communication protocols ***SPI*** and ***I2C***.Designed circuit board and schematic using Cadence (Or- CAD).

PROJECTS

Time Series Classification of Human Activity Detection
- Classified human activities based on time series AReM dataset involving data imbalance using LR and Naive Bayes Classifier.
- Implemented multi-label and multi class classification using classifier chain and SVM on Anuran cells MFCCs dataset.

Identifying Diabetic Patients With High Risk Of Readmission
- Implemented classification model to accurately categorize incoming unknown data points with accuracy greater than 65 percent.
- Developed state-of-art techniques to obtain 96 percent accuracy by performing feature extraction .

Classical Computer Vision and Digital Image processing Toolbox
- Developed a library for Image Processing Applications in C++ in Image demosaicing and filtering, Histogram Manipulation, Image stitching and Morphological Processing.
- Implemented image **Texture Classification** and **Segmentation** using **kmeans,SVM**,and **RF**.
- Developed an image classifier based on **Bag of visual Words** model using **SIFT** - **OpenCV** to extract features.
- Implementation of **CNN model** for classifying CIFAR-10 dataset and MNIST .
- Implemented state of the art techniques of computer vision to achieve good results in terms of accuracy as well as model size.

Implementation of Successive Subspace Learning on Cifar-10 dataset
- Implementation of PixelHop++ model that is used in designing interpretable learning model to reduce the model size .
- This implementation offers trade off between model size and classification performance.

Time series forecasting using RNN
- Worked on a Time Series Forecasting problem to Forecast next timestamp given a sequence of history values using RNN.

Real-Time Object Detection with YOLOv3
- Performed real-time object detection with YOLOv3.Used OpenCV to manipulate video data & develop a command line application with Python for inference

CERTIFICATIONS

- Deep Learning A-Z: hands-on Artificial Neural Networks-Udemy
- Deeplearing.ai -Cousera (In Progress)
- Master Computer Vision using the newest version of OpenCV4 in Python-(In Progress)