Sriharsha Annamaneni

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INDUSTRIAL EXPERIENCE

Senior Engineer, Robert Bosch Engineering and Business solutions, Bengaluru May 2021 - present
- Built a smarttest execution system, given a bug the system has to retrieve related test cases using NLP.
- The system is currently in Beta testing phase.

Computer Vision Engineer, Aimlytics, Hyderabad Oct 2020 - May 2021
- Built a Proof of Concept for automatic speech dubbing that involves Automated Speech Recognition, Speaker Diarization and Text to Speech

Research Engineer, Sirena Technologies, Bangalore Oct 2019 - Jun 2020
- Wake up word detection, Built an offline trigger word detector like "Ok Google", using Time Delay Neural Networks.
- Face Recognition, Built Deep Neural Network for recognizing facial images captured by a camera, compared it with the images in the database and retrieve information of the detected person.
- Automatic Speech Recognition, Building a Robust ASR model for Indian English using existing ASR architecture Deepspeech2

RESEARCH EXPERIENCE

Research Fellow, IIIT Hyderabad Nov 2017 - May 2019
With Prof. C.V. Jawahar and Dr. Girish Varma
- Deep Learning, specifically Model Compression techniques and Semantic Segmentation for Autonomous Navigation on Indian Roads
- Road Audit system design, retrieving the location of defects of the road not only due to regular wear and tear but also because of extreme events like storms over a period of time using video and GPS data

Undergraduate Thesis, BARC, India Jan 2014 - Jun 2014
with Dr. Siddhartha Mukhopadhyay and Dr. Debmalya Mukherjee
- Compression of Magnetic Flux Leakage Signals Data Collected by Instrumented Pipeline Inspection Gauge.
- The algorithm involves Principal Component Analysis and Wavelets
- Thesis link

EDUCATION

Florida Institute of Technology, Melbourne, FL GPA: 3.7/4.0
Master of Science, Electrical Engineering 2016

Manipal Institute of Technology, Manipal, India GPA: 7.0/10
Bachelor of Engineering, Electronics and Communication Engineering, 2014

PUBLICATIONS

[1] Efficient Semantic Segmentation using Gradual Grouping
Nikitha Vallurapalli*, **Sriharsha Annamaneni***, Girish Varma*, CV Jawahar*, Manu Mathew, Soyeb Nagori , eprint arXiv:1806.08522
CVPR Workshop, 2018(oral), **Best Runner-up Award**

[2] Development of antenna deployment circuit for nano-satellites
Pramath Keny*, Arya Menon*, Madhura Rao*, Urvang Gaitonde*, Animesh Gupta*, **Annamaneni Sriharsha***
European Conference on Circuit Theory and Design (ECCTD), 2013

COMPUTER SKILLS

Tools: MATLAB, Python, Pytorch, LaTeX, OpenCV, Sci-Kit Learn, PostgreSQL, Pandas, Pillow, spacy, Pomegranate, Plotly

Projects

Behavioral Cloning
Built an end-to-end AI system which features a deep learning algorithm that clones the driving behavior

Landmark Detection and Robot Tracking
Implemented SLAM for a 2-dimensional world. Created a map of environment using robot sensor measurements and motion data gathered by a robot, over time. SLAM gives you a way to track the location of a robot in the world in real-time and identify the locations of landmarks such as buildings, trees, rocks, and other world features

Image-Denoising-Using-Conditional-GAN
Designed a Conditional Generative Adversarial Network for removing Image noise

Behavioral Cloning
Demonstrated how deep neural networks and convolutional neural networks can be used to clone driving behavior

Primary Object Detection
The POD algorithm attempts to identify the "primary object" in a set of video frames. It breaks up each frame into multiple object proposals from which foreground and background features are derived and stochastically analyzed into multiple object proposals from which foreground and background features are dervied and stochastically analyzed to generate for each frame an object recurrence, background and primary object models. The models developed lead to discovering the bounding boxes of the primary object in each frame

Unscented Kalman Filter
Implemented an Unscented Kalman Filter to estimate the state of multiple cars on a highway using noisy lidar and radar measurements

Coursework

Graduate Level: Computer Vision, Optimization, Image Processing, Efficient Convolutional Neural Networks, Stochastic Modeling

Undergraduate Level: Data Structures, Cipher Systems, Stochastic Processes and Reliability, Digital Signal Processing, Advanced Digital Signal Processing, Topics in Information Theory, Artifical Neural Networks

Moocs

- EECS 498/598: Deep Learning for Computer Vision
- **Computer Vision Nanodegree**, Udacity
- **SQL Nanodegree**, Udacity
- Machine Learning
- Digital Signal Processing
- Data Mining
- Bayesian Methods for Machine Learning
- Introduction to Programming with MATLAB
- Robotics: Computational Motion Planning
- Image and video processing From Mars to Hollywood with a stop at the hospital