

Sairam Tabibu

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EDUCATION

University of Washington, Seattle — UW College of Engineering, Seattle, WA

Master of Science in Electrical and Computer Engineering

Sept. 2019 – Mar. 2021 (expected)

Selected coursework - Intro to Artificial Intelligence for mobile robots, Machine Vision, Machine Learning

Indian Institute of Technology(BHU), Varanasi, Varanasi, India

GPA-3.5/4

Bachelors of Technology in Electronics Engineering

Jul. 2013 – May. 2017

WORK EXPERIENCE

Deep Learning Program Mentor, Great Learning

Bangalore, India

Nov. 2018 – May. 2019

- Mentored working professionals by teaching them Computer Vision and Machine Learning concepts.
- Created assignments covering projects of Face and object detection and graded them.

Research Fellow, IIIT, Hyderabad India

Cancer detection and Survival Prediction using Deep learning

Nov. 2017 – Mar. 2019

- Spearheaded and developed a fully automated model which detected kidney Cancer and it's sub-types from tissue slide images (Gigapixel Images) using Deep learning. **Paper published in Nature Scientific reports.**
- Designed and Implemented a novel Directed Acyclic graph based SVM model to be used on top of Deep learning model to deal with Data Imbalance which increased the classification accuracy by 6-7%.
- Developed a survival prediction system (5 years) using a COX Regression model trained on the features extracted from the Deep Net without any human intervention.

Research Intern, NTU, Singapore

Infrared Image processing and vessel detection in Maritime Environment

May. 2016 – Jul. 2016

- Developed a automated Ship tracking system using IR cameras along the Singapore coastline with possible variations in orientation, shape, distance and surrounding effects.
- Improved the object detection system by implementing the Selective search method (Graph based object segmentation followed by grouping based on location, shape, color of the object).
- Implemented and trained VGG nets on the IR images to extract relevant features and used SVM's for classification.

Research Intern, Changwon National University, South Korea

Real time Face recognition based on Embedded Systems

May. 2015 – Jul. 2015

- Spearheaded the project on improving and deploying a Real time face recognition algorithm on Embedded systems such as Raspberry Pi to be deployed as a low cost product.
 - Designed a system by implementing a model which extracted higher order Local derivative patterns from face and used Histogram matching for recognition.
 - Improved upon the accuracy by using transforms such as Adaptive Histogram equalisation to bring illumination in-variance and increased the accuracy by 7-8%.
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RESEARCH PROJECTS

Hand gesture Recognition on Indian Sign language

Guide: Dr. Kishor Sarwadekar, Assistant Professor, IIT BHU

Dec. 2016 – May. 2017

- Implemented a geometric based feature method to extract hand gesture removing any ring artifact.
- Designed a custom 5 layer Neural network for feature extraction and classification.

Lexical and visual analysis of social media posts

Guide: Dr. Erik Cambria

Jan. 2017 – Apr. 2017

- Spearheaded the project on developing a system to detect whether a social media post requires empathetic response.
- Designed and Implemented a pipeline to extract hand crafted features (both verbal and visual features) and used Logistic Regression and Random forest for classification achieving 80% accuracy. **Paper accepted in FLAIRS'17.**

Multi-modal analysis for deception detection

Guide: Dr. Erik Cambria

Sep. 2016 – Dec. 2016

- Developed a data-driven method for automatic deception detection in real-life trial data.
 - Implemented an automated pipeline to extract the visual cues (face expressions, color attributes etc.) and verbal cues (utterances etc.) and did a Decision level fusion using SVM on top of these features for classification.
 - Achieved an accuracy of 78% surpassing the Human level accuracy(58-60 %) by more than 15%. **Paper accepted in ICDM workshop'16.**
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Summary of Qualifications

Interests: Computer Vision, Machine Learning, Deep Learning, Artificial Intelligence

Software and Languages: Python, C++, C, R, Matlab, \LaTeX

Embedded Platforms: Raspberry Pi, Arduino

Packages and Framework: Pytorch, Keras, Tensorflow, Numpy, Scikit-learn, OpenCV, MatConvnet
