VIJAYPRASAD.S

08 April 1999

52B Gandhinagar, Madukkarai
Coimbatore - 641105, Tamil Nadu

+91 9566406883

Personal Website

Vijayprasad S

svijayprasad39@gmail.com

Skills

PROGRAMMING LANGUAGES
C++/C | Python | Bash | Matlab | C#

MACHINE LEARNING PACKAGES
Tensorflow | Keras | Theano | PyTorch

CONTROLLER BOARD
NVIDIA Jetson | Arduino | Rasberry-Pi

WEB DEVELOPMENT
HTML | CSS | JavaScript

Relevent Coursework

Machine Learning (MOOC)
Deep Learning Specialization (MOOC)
Tensorflow Specialization (MOOC)
Data Structures & Algorithms
Computer Organization
Software Engineering
Fuzzy Systems & Genetic Algorithms
Database & Management Systems

Responsibility

FESTEMBER, NIT TRICHY
Annual Inter-Collegiate Cultural Festival
Posn: ORGANIZER
Dur: 2017 - 2019

Managed a diverse team of 60 undergraduate students towards the planning and execution of a cluster of workshops for the cultural festival.

EEE ASSOCIATION
The Annual National Level Symposium
Posn: WORKSHOP MANAGER
Dur: 2017 - 2019

Tutored workshops in the field of Embedded Systems, Digital Electronics and Robotics. Also hosted a series of technical seminars in the field of electronics and electrical economics.

NATIONAL SERVICE SCHEME
Indian public service program
Posn: ORGANIZER
Dur: 2017 - 2019

Organized various social and education campaigns and developed a sense of civic responsibility among the students.

Education

2016-2020   NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI, INDIA
Bachelor of Technology (B.Tech) | Expected July 2020
Major: Electrical and Electronics Engineering | CGPA: 8.3 (Till 7th semester)
Minor: Computer Science and Engineering

2014-2016   THE INDIAN SCHOOL, BAHRAIN
Central Board of Secondary Education | Percentage: 94.6% (473/500)

Professional Experience

INDIAN INSTITUTE OF SCIENCE (IISc) BANGALORE
Ref: Dr. Suresh Sundaram, *Associate Professor, Dept of Aerospace Engineering*
Lab: ARTIFICIAL INTELLIGENCE AND ROBOTICS LABORATORY
Dur: May 2019 —Jul 2019
Posn: Research Intern

Designed an Convolutional Neural Network (CNN) architecture for the computation of a high resolution depth map of the environment with the aid of transfer learning, given a single RGB image. Moreover, following an architecture of standard encoder-decoder, the output is extrapolated into devising an obstacle avoidance and path planning algorithm on quad-copters.

INDIAN INSTITUTE OF SCIENCE (IISc) BANGALORE
Ref: Dr. Mayank S, *Associate Professor, Dept of Electronic Systems Engineering*
Lab: NANOELECTRONICS & DEVICES LABORATORY
Dur: Nov 2018 —Jan 2019
Posn: Research Intern

Modeled the properties of the drain-extended tunnel FET (DeTFET) using TCAD simulation software and compared the results with the drain-extended MOSFETs and similar high-power MOSFET designs. Moreover, Subjected the DeTFETs to Electrostatic Discharge (ESD) conditions and derived the formation/physical insights of the localized thermal filament formation.

INDIAN INSTITUTE OF TECHNOLOGY (IIT) DELHI
Ref: Dr. Sunil Jha, *Professor, Dept of Mechanical Engineering*
Lab: AUTONOMOUS ROBOTICS LABORATORY
Dur: May 2018 —Jul 2018
Posn: Research Intern

Developed an embedded vision system for self-driving cars using the Nvidia Jetson Tx2 controller board and ZED stereo camera. Further, designed a Convolutional Neural Network (CNN) based deep learning architecture for lane detection and segmentation. Moreover, optimized the model with the embedded hardware to implement autonomous lane navigation on the Mahraindra self-driving vehicle with an unprecedented validation accuracy of 93%.

Projects

ROBOTIC EXOSKELETON FOR STROKE REHABILITATION
Dur: Jan 2019 — On going (Final Year Project)
Guide: Dr. C. Nagamani, *Professor, Dept of Electrical and Electronics Engg (NIT Trichy)*

Developed an intelligent knee-ankle-foot robot, for stroke patients to carry out gait rehabilitation at outpatient and home settings. Electromyography signals from the critical muscle groups were used to detect human intent, and an adaptive shared control system was developed using Recurrent Neural Network with LSTM cells.

MULTI-CLASS CLASSIFICATION OF X-RAYS USING RESIDUAL CNNs
Dur: Dec 2019 —Apr 2020 (Work submitted to IEEE Big Data 2020 - Link)

Developed a Residual Convolutional Neural Network (ResNet 50) that accepts X-rays corresponding to a specific disease as an input and returns the classification label as the output. Various techniques from image augmentation to image enhancement are implemented to boost the validation accuracy. The model acquired a validation accuracy of 92.2%.

GENOMIC DATA ANALYSIS FOR HUMAN HISTORY VISUALIZATION
Dur: May 2019 —Sept 2019

This project involved the classification of genetic data from chromosomes of different kinds of individuals. Implemented dimensional reduction using Principle Compound Analysis (PCA) to fit the genetic data set in to a 2D plane of labelled points.