Suchith Chidananda Prabhu

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Education

- **Indian Institute of Technology Delhi** — Delhi, India
  Ph.D. in Artificial Intelligence; GPA: 9.4 — *Aug 2021 - Present*
  Research topic: Extreme Classification.
- **National Institute of Technology Goa** — Goa, India
  Bachelor of Computer Science; GPA: 9.25 (First in class of 30) — *Aug 2015 - May 2019*

Academic Projects

- **Extreme Classification and Graphs**: I collaborated with a senior colleague on a project which aimed to employ multiple graphs from both the label and data-point sides of the Extreme Classification task as regularizers, and to train the Extreme classifiers using a Multitask learning approach.

Experience

- **Vehant Technologies** — Noida, India
  Software Developer - UnderVehicle Scanning System — *July 2019 - July 2021*
  - **Stereo camera calibration**: I have been engaged in the stereo fisheye calibration of the Blackfly S GigE camera with LNC lens. I made modifications to the calibration and rectification code, to apply rectification to only a specific portion of the image, and to perform perspective correction based on calibration parameters, in order to cater to our use case of scanning undervehicles.
  - **Depth Estimation**: The depth estimation of the underside of vehicles was carried out using stereo rectified images. A comprehensive analysis of various deep and classical depth estimation algorithms was conducted, and the ELAS depth algorithm was utilized, with improvements, for undervehicle depth estimation.
  - **Depth Registration**: An algorithm for depth registration was implemented by decomposing the registration process into two steps. The first step involved warping depth maps along the x-y plane using a mapping function obtained from features extracted from the color image, followed by triangulation on those feature points. The second step involved one-shot alignment along z-axis by determining a rotation matrix on the partially warped depth maps.
  - **Automatic Image Comparision**: A method for the detection of foreign objects on the underside of a vehicle was developed based on the integration of depth and color information.
  - **Signal Processing Unit**: A framework was developed for the acquisition, processing, and storage of color frames from Blackfly S GigE cameras capturing the underside of a vehicle. This color frames were then used to stitch together a complete, full image of the vehicle's underside.
- **Indian Academy of Science Summer Research Fellowship Programme** — Bengaluru, India
  Internship-Vijna Labs — *May 2018 - July 2018*
  - **Adulterant Detection in Pharmaceuticals and Oils**: An Artificial Intelligence framework was instituted for the purpose of detecting adulterants in pharmaceuticals and oils. The framework utilizes Infrared Spectrum Signature Analysis as its primary technique.
- **R. C. Bose Cryptology Internship** — Kolkata, India
  Internship-Indian Statistical Institute — *May 2017 - July 2017*
  - **Decentralized App**: A comprehensive analysis and implementation of several consensus protocols, including the Byzantine, Phase-King, and Paxos algorithms, was carried out. Furthermore, a decentralized application was developed on the Ethereum blockchain that employs a cloud storage system. This application leverages the blockchain data structure for auditor-less auditing of cloud data, as outlined in a paper authored by my mentor, Goutam Paul.

Course Work

- **Information Retrieval** — A
- **Natural language processing** — A-
- **Data Mining** — A
- **Numerical Algorithms** — A
- **Machine Learning** — B

Skills Summary

- **Languages**: C++, Python, C, Julia
- **Libraries**: CAFFE, OpenCV, TensorFlow, PyTorch