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### **EXPERIENCE**

## HCL Technologies | Technical Lead

Aug. 2021 - Present

- Worked on HCLs Roboops tool which is a scalable, extensible and unified application for robot controllers build on ROS2 using python. This provides various automation solution
- Created various POCs using HCLs eDAT application and Roboops including automation testing of VR devices, POS machines and other medical devices.
- Used various deep neural networks like YOLO and Fast-RCNN to fine tune and implement object detection on custome data set.
- Filed patents on various IPs for HCL.
- Fixed various bugs in existing projects

### IIT Madras | Project Associate

Aug. 2017 - Jul. 2019

- Implementation of deep learning and machine learning models on various image data set such as MRI, Polyp, Retinal etc.
- Models like Unet, mask-RCNN were trained using fine tuning and transfer learning methods. Data sets were pre-processed like augmentation, normalization were used

#### **EDUCATION**

Master of Technology   Electronics and Electrical Engineering   CGPA: 7.66/10	Aug. 2019 – May 2021
Indian Institute of Technology, Guwahati	Guwahati, A.S, India
<b>Bachelor of Technology</b>   <i>Electronics &amp; Telecommunication Engineering</i>   <b>CGPA: 8.0</b> Veer Surendra Sai University of Technology, Burla	<b>2/10</b> Aug. 2012 – May 2016 Burla, O.R, India
Intermediate   CBSE   Percentage: 87 Vidyamandir sr .sec school, Kota	Aug. 2010 – May 2012 Kota, R.J, India
Xth class   Percentage: 91.2 K.V C.M.E , PUNE	Aug. 2009 – May 2010 Pune, M.H, India

### AREAS OF INTEREST

Deep learning, Machine learning, Digital Signal Processing

### TECHNICAL PROFICIENCY

Operating Systems: Linux, Windows.

**Programming:** Python, Powershell, C#\*, .NET\*, c\*, c++\*.

Tools: OpenCV, MATLAB, TensorflowRT

Scientific Libraries: Tensorflow, Scikit Learn, Pytorch.

Data Analysis: Numpy, Pandas.

\*Elementary proficiency

## Patent: System and Methods of generating sample lables

May '21 to March '22

• We filed a patent where we discuss on various methods of generating annotated images. These methods are useful when have limited data and want to automate annotation process.

### Reconstruction of MRI images from K-space

March '18 to May '19

• Neural networks like 1D Automap and Automap used for reconstruction of MRI from K-space obtained. K-space is the raw data obtained and represent the DFT of the image.

## Implementing MLP for MNIST data classification

JAN'18 to March'18

• MNIST data were classified using MLP. The network accuracy was improved using data augmentation and fine-tuning parameters like initialization, learning rate, number of epochs

### Using LSTM to convert a binary string to its 2s complement

Aug18 to Dec'18

• We train a LSTM to learn the 2s complement of binary numbers. The network was capable of learning the conversion and had above 99 percent accuracy in converting the binary string.

### RELEVENT COURSES DONE

- Machine Learning for Image Processing
- Linear Alzebra and Probability

• Computer Vision

• Deep Learning

#### **ACHIEVEMENTS**

\* GATE 2017: Secured AIR 1973 out og 0.14 million candidates

## POSITIONS OF RESPONSIBILITY

# Teaching Assistant at Dept of EEE at IIT Guwahati

July '20 to jun'21

I worked with the faculty in formulating their assignments and evaluation of students for device physics course .