



Aditya Sanjay Bodkhe

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Academic Details			
Year	Degree	Institute	CGPA/Marks(%)
2021	M.Tech in Artificial Intelligence	Indian Institute of Technology Hyderabad	7.26
2019	B.E Computer Engineering	K.K.Wagh Engineering College Nashik	7.77
2015	XII (Maharashtra State Board, Pune)	Government college Vidarbha Amravati	76.46%
2013	X (Maharashtra State Board, Pune)	Golden Kids English School Amravati	85.45%

Experience

Computer Vision Intern at Redpine Signals (Jan 2020 - December 2020).

I was awarded with an opportunity to complete an year long research internship at RedPine Signals, Inc.

Below is major project completed during internship

Generative Adversarial Network(GAN) to create meaningful additional samples from Existing Data (May - July 2020)

- Deep Learning Models require huge amount of Data to learn, this model will create additional data with useful variation by learning from existing data(images), we have successfully adapted this methodology for Emnist with good results and we are planning to scale this method on more challenging datasets.
- Basically we have implemented an Novel methodology for Data Augmentation using GAN's. Our network is also suitable for resource constrained devices.
- We have recorded on an average upto 15% overall increase in test accuracy of classifier in low shot scenario and 3% increase in accuracy in high shot scenario.

Projects

See Through Armour(Ongoing M.Tech Thesis) (Funded)

Guide :- Prof. Amit Acharyya

Pytorch, OpenCv

- Soldiers driving the war tanks are often required to detect and track different activities ongoing in the environment, they have to keep an eye on objects hundreds of meters away from them, many often they have to come out of the Armour to see things clearly making themselves vulnerable to the enemies.
- Product we are developing will use Computer Vision to perceive the surrounding environment using detection and tracking of multiple objects and show the 360 degree live feed inside the tank. This system will take input from multiple cameras and is designed to work in day as well as night conditions

Pedestrian Tracking in Real Time

(Jan - April 2020)

Tensorflow, OpenCv

- In this Computer Vision project, we extended DeepSort an existing technique which is SOTA for real time tracking of pedestrians in different scenarios.
- We achieved increase in real time performance of original tracking architecture measured by 10% increase in average FPS by adding frame skip to the detection pipeline without loss of accuracy.

Real Time Messenger Service Using HiveMQ

(June - July 2020)

HiveMQ, Python3, Tkinter

- I developed an MQTT based Messenger application with support of real time multi user chat, group chat and GUI using Python.

Media Player with Smart Remote for Samsung Smart T.V

(June - July 2020)

JavaScript, Tizen

- Implemented Media Player with Smart TV Remote Control support and all media playback functions.

Participant of "Swadeshi" Microprocessor Challenge as a part of IITH VLSI Team

(October 2020 - March 2021)

C++, OpenCv

- In a team of 5 we are deploying video stitching solution on a 350mhz CPU.

Personal Projects out of self learning goals

Tensorflow

From scratch implemented classifiers with various backbones as follows :

a) VGG b) ResNet with full pre activation c) MobileNetV2 d) DenseNet.

Trained and tested all of the above for CIFAR -10 dataset and Tensorflow 2.2

Achievements

- Third Prize for B.E Project at District Level Project Competition

- Elite Level Certification for "Introduction to Modern Application Development" from NPTEL
- Was Selected as a representative of NSS Camps at various levels on behalf of my college at undergrad level

Skills

Programming Technologies :- C++, Python3, JavaScript, MySQL

Deep Learning Frameworks :- Tensorflow, PyTorch, Numpy, OpenCv

Additional Technologies :- HiveMQ, Google Colab, Nvidia Dgx-2, Tizen

Relevant Courses

Practical C.S :- Advanced Data Structures and Algo, Database Management, Internet of Things, Linear Optimization.

Practical A.I :- Deep Learning, Surveillance Video Analytics, M.L Hardware Implementation, Intro to Modern A.I

Mathematical :- Linear Algebra, Probability and Random Variables, Convex Optimization

Theoretical :- Foundations of Machine Learning ,Operating Systems, Computer Architecture, Statistical Learning theory

Creative Works and Sports Activities

Video editing using Adobe Premiere

I have my own YouTube Channel

Completed 1000 K.M long on bike Road Trip Across Uttarakhand and Himachal Pradesh at age of 20

Casual Volleyball player