MOHAN RAO DIVATE KODANDARAMA
2110 University Ave, Apt 309,
Madison, WI 53726-2301
Contact: +16087339899

Email : divatekodand@wisc.edu / mohanr318@gmail.com
LinkedIn: https://www.linkedin.com/in/mohandivate
Website: divatekodand.github.io
Github : https://github.com/divatekodand

OBJECTIVE

A self-motivated, hardworking graduate student in Computer Science looking for a full-time position in the field of ***Computer Vision/Machine Learning*** *starting* ***May 2020.***

EDUCATION

- ***University of Wisconsin-Madison*** ***Madison, WI***
  M.S. in Computer Science, ***GPA: 4.0/4.0*** ***May 2020***
  Coursework:
  CS838 **Computer Vision**, CS861 **Theoretical ML**, CS760 **Machine Learning**, CS726 **Non-linear Optimization**, CS761 **Mathematical Foundations of ML** (Audit), CS744 **Big Data Systems**, CS537 **Operating Systems**
- ***National Institute of Technology Karnataka, Surathkal*** ***Surathkal, India***
  B.Tech in Electronics and Communication Engineering, ***GPA: 9.11/10*** ***Graduated May 2016***
  Activities: TA for Engineering Mathematics II, Peer Mentor for MATLAB Programming.
  Relevant Coursework:
  Computer Programming, Digital Signal Processing, Data Structures and Algorithms, Application of Signal Processing to Image and Video (CT image reconstruction), Digital Processing of Speech and Audio Signals, Linear Algebra and Probability.

WORK EXPERIENCE

PERCEPTION (COMPUTER VISION) INTERN AT ARGO AI ***JUNE 2019-AUG 2019***

- Developed a Deep Learning based 3D object detection pipeline for Autonomous Vehicle using LiDAR data.
- Developed Graph Convolution based point-cloud features to improve detection of objects far from the AV's.
- Worked on reducing false positive detection rate.
- Improved the performance of proposed detection algorithm on rare classes.
- Proposed an objective function to mitigate the effects of correlated point-cloud sweeps (non-independently and identically distributed data) on detection algorithm.
- Propose a new evaluation metric for the task of object detection in AV's which captures the types of errors made by the detection algorithm.

STUDENT RESEARCHER AT UW-MADISON ***SEPT 2018 – PRESENT***

Projects worked on –

Automated Analysis of 3D CT Images of Brain using Deep Learning ***SEPT 2018 - PRESENT***

- Developed and Implemented Deep Learning Models for detecting several Brain Abnormalities such as Hemorrhage, Lesion and Stroke using 3D CT Images of Brain.
- Utilized large corpus of unlabeled data by formulating the task as a domain transfer problem.

SerFer: Serverless Inference ***FEB 2019 - PRESENT***

- SerFer is a distributed framework for serving Deep Learning queries built on top of a Serverless Computing Platform (AWS Lambda). It distributes the computation across several Lambda's by splitting both the Deep Learning Model, as well as the input query.

FIRMWARE ENGINEER AT SANDISK, A WESTERN DIGITAL BRAND ***JUL 2016 – AUG 2018***

- Designed, Developed and Validated following Firmware modules -Garbage Collection/Memory Compaction, Error Correction, Address Translation and Internal File System for USB Flash Drive products based on a platform (Karona Platform) which utilizes LDPC Error Correction Engine.

INTERN AT NATIONAL AEROSPACE LABORATORIES ***MAY – JUL 2015***

Projects worked on:

- *Active Noise Control*: Implemented FxLMS Algorithm on a microcontroller (based on TI TMS320C6748) unit which controlled noise control headphones.
- *Digital Video Watermarking* for metadata embedding: Developed and implemented an algorithm for embedding metadata directly in compressed MPEG-4 Video bit-stream (MATLAB).

SKILLS

- Programming Languages: C/C++, Python, MATLAB
- Tools / Platform: Tensorflow , Pytorch, GIT, Accurev, OpenCV, scikit-learn
- Other Skills: Object Oriented Design, Machine Learning (CNN's, RNN's, GAN's, and VAE), Big Data Systems (Hadoop, Spark, Spark Streaming, Spark SQL, GraphX), AWS

OTHER PROJECTS

Word Embeddings for Fine-Grained Sentiment Analysis ***NOV – DEC 2018***

- Current methods to learn word embeddings result in similar representation for words with different connotations and hence, sentiment recognition systems relying on them perform poorly.
- To overcome this, I proposed a new approach to learn word representation, which improves the performance of sentiment recognition systems that rely on word vector representations.

Reconfigurable Architecture for face Detection ***AUG 15 – APR 16***

- Developed a custom Face Detection Model suitable for Hardware Implementation using Viola-Jones Face Detection Framework. This model was trained and validated on MATLAB.
- Designed and Developed Hardware accelerator for Face Detection using Xilinx Zedboard.
- Languages and Tools Used - Xilinx Vivado Design Suite, C++, VHDL, and OpenCV.

Algebraic Reconstruction using SART and Total Variation De-noising ***MAR 2015***

- Developed and implemented an improved version of SART Algorithm (simultaneous algebraic reconstruction technique, a computerized tomography Algorithm) that uses Total Variation De-noising to reduce the noise levels in the Images reconstructed from limited CT projection data.
- Tools used – MATLAB