

MADISETTY UDAY THEJA

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Education

Program	Institution	CGPA	Year
B.Tech & M.Tech (Dual degree), CSE	Indian Institute of Technology (IIT), Madras	8.19/10.0	2019
XIIth Std. (AP State Board)	Narayana Junior College	98.7%	2014
Xth Std. (CBSE)	Bharatiya Vidya Bhavan Public School	10.0/10.0	2012

Scholastic Achievements

- Secured All India Rank 334 (99.97 percentile) in JEE-Advanced 2014 (formerly IIT-JEE) examination.
- Secured All India Rank 58 (99.99 percentile) in JEE-Mains 2014 examination.
- Secured State Rank 137 (99.90 percentile) in EAMCET, Andhra Pradesh Engineering Entrance Test.

Research Papers

Dyadic Human Interaction Recognition from Videos using Multi-layer 3D CNN May 2020
International Journal on Emerging Technologies, [Link](#)

- The proposed DHIR system recognizes the interactions of humans with reduced misclassification rate and minimal processing time compared to the benchmarking datasets for various interactions.
- It achieves 94.78% and 93.394% for SBU kinect interaction dataset and AU-Interaction dataset respectively

Fusion-based Gaussian Mixture Model for Background Subtraction from Videos Nov 2020
International Journal of Computer Applications in Technology, Inderscience, (accepted for publication)

- The proposed FGMM background subtraction algorithm extracts the foreground from videos invariant to illumination, shadows, and the dynamic background by exploiting the Jeffries-Matusita distance, weighted euclidean based color similarity and color distortion measures and shows a high recall rate of 97.36% for illumination video sequences.

Professional Experience

Member of Technical Staff 3 at Nutanix Technologies India Private Limited July 2019 - Present
Xi Cloud Networking Team Bangalore

- Implemented a packet snooping mechanism using pcap to capture the network information dynamically and detect misconfigurations. Enhanced the network controller and implemented a scale limiting mechanism.
- As a part of the annual Nutanix hackathon, we developed a software which provides DNS (Domain Name Resolution System) as a service for our on-premises deployments and won the hackathon under the "Hybrid Cloud" category.

Research Intern at Indian Institute Of Technology (IIT), Hyderabad Winter 2017
Distributed Machine Learning, [Link](#) Hyderabad

Microsoft funded research under the guidance of Dr. C. Krishna Mohan, Professor, CSE department, IIT Hyderabad.

- Implemented a communication avoiding fully distributed support vector machine which learns from multiple corpora of sensitive data with different parties without sharing the data to each other
- Implemented distributed parallel versions of the existing sequential K-Means++ and GMM algorithms for big data.

Google Summer Of Code 2017, FOSSASIA Summer 2017
ReactJS Developer, [Link](#) Work From Home

- Developed web applications capable of chat and voice interaction and a content management system from scratch, for SUSI.AI, an open-source AI for personal assistants and deployed the server on Google Cloud with Kubernetes.

Summer Intern at American Express Summer 2017
Fraud Decision Science, RIM CoE Team, [Link](#) Gurgaon

- Developed a robust prediction system that analyzed the historical FICO scores and forecasted the scores in the future

- to identify potential defaulters, by using techniques like: ETS, ARIMA, Regression, Neural Networks.
- Received a Pre-Placement full-time job offer for the exceptional work.

Summer Intern at MyAlly.ai (Formerly Skedool.it)

Summer 2016

Django developer, [Link](#)

Hyderabad

Worked on an AI powered assistant for enterprise talent lifecycle management.

- Developed an email interface compatible with gmail and outlook. Also, created a facebook messenger chat bot.

Projects

Monocular Depth Estimation and Segmentation

May 2020

- Given an image with foreground objects and a background image, generates the depth map as well as a mask for the foreground object. The encoder uses ResNet blocks to extract the visual features. The decoder uses skip connections from the encoder and transpose convolutions to upscale the features and construct the mask and depth maps.

Video Captioning with Hierarchical LSTM and Attention Mechanism

Aug 2018 - May 2019

- Worked under the guidance of Dr. C. Chandra Sekhar, Professor, Head of the CSE Department, IIT Madras.
- A video captioning framework with temporal attention mechanism which automatically uses visual information to generate visual words and the language context information to generate the non-visual words in a caption.

Arithmetic Word Problem Solver and Context Sensitive Spell Checker (NLP course)

April-May 2018

- Developed a system which can solve simple arithmetic word problems involving addition and subtraction in natural language, by extracting a temporal state representation to build relevant equations and solve them.
- Implemented a Spell Checker which provides spelling corrections by pruning down the search space of candidate words and uses context and phonetic algorithms to improve the prediction accuracy and the performance of the system.

Data Classification and Object Detection Models (DL & PR course)

March 2018

- Implemented a CNN for image classification on Fashion-MNIST dataset and applied guided back-propagation on intermediate convolution layers to visualize patches in the image which excite a particular neuron.
- Implemented classification models including KNN, GMM, Multi-Layer Feed Forward Neural Network, and SVM.
- Trained YoloV3 object detection network on a custom dataset of 500 images of minions using transfer learning.

Twitter Streamer (Course project)

Jan-Mar 2017

- Developed a web application that filters the real-time tweets based on the keywords and location provided and pushes them onto kafka queues established on several nodes which are then consumed and visualized on a map.

Proxy - Easy Attendance (Course project)

Jan-Mar 2017

- Developed a django web application that uses face recognition to identify students from images of the classroom.
- This application is intended to ease the process of collecting attendance in educational institutions.

Course Work

Deep Learning, Natural Language Processing, Pattern Recognition, Principles of Software Engg., GPU Programming, Cloud Computing, Database Systems, Operating System, Data Structures and Algorithms, Probability and Statistics.

Skills

- Programming languages: C, C++, Java, Python, Golang, R, Matlab, Scala, SQL, ReactJS
- Libraries and Frameworks: Tensorflow, Django, CUDA, OpenMP, OpenMPI, NumPy, Pandas, Open vSwitch, Git

Positions of Responsibility

- Teaching Assistant for Programming and Data Structures Lab, CSE Department, IIT Madras, Jul-Nov 2018. ([Link](#))
- WebOps (Web Operations) Core, Exebit - Technical Fest of IIT Madras, CSE Department, 2018. ([Link](#))
- Hospitality Coordinator, Saarang - Cultural Fest of IIT Madras, 2016. ([Link](#))
- Finance And Sales Coordinator, Shaastra - Technical Fest of IIT Madras, 2016. ([Link](#))
- Deputy Placement Coordinator, CSE Department, IIT Madras, 2015-2016. ([Link](#))
- MITR (Mentoring for Individual Transformation) Mentor for 7 first year students 2015-2016. ([Link](#))