Lakshmi Pratyusha Vudutala

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EDUCATION

Texas A&M University, College Station, Texas — *Aug 2021 - May 2023*
Master of Computer Science — *GPA : 4.0*
Deep Learning, Machine Learning, NLP, Data Mining, Software Engineering, Advanced Algorithms

Indian Institute of Technology Tirupati, Tirupati, India — *Aug 2016 - May 2020*
Bachelor of Technology in Electrical Engineering — *GPA : 8.59/10*
Machine Learning, Advanced Image Processing, Computer Vision, Linear Algebra, Data Structures

EXPERIENCE

Texas A & M, College Station, Texas | ***Teaching Assistant*** — *Aug 2021 - Present*
- Managing labs and teams for the course CSCE 315 - Programming Studio through-out three projects that deal with html, javascript, database management, and user interfaces.

Goldman Sachs, Dallas, Texas | ***Summer Analyst*** — *Jun 2022 - Aug 2022*
- Developed an algorithm using machine learning techniques to predict memory usage of spark jobs in the Datalake team.
- Created a pipeline from data collection through spark logs and analyzed data to initiate a novel model for prediction.

TCS Innovation Labs, Bangalore, India | ***Researcher*** — *Sep 2020 - Jul 2021*
- Evaluated the state-of-art work on Open set recognition problem, with conditional Gaussian distribution learning.
- Enhanced detection of unknown samples by forcing different latent features to approximate different Gaussian models.

TCS Innovation Labs, Bangalore, India | ***Research Intern*** — *May 2019 - Jul 2019*
- Created a high-level robot task management system on WEBOTS simulator.
- Built a library for API functions of around 30 generic actions of robots in python.
- Structured a knowledge base of dynamic simulated world and an interface for the project.

Cyient Ltd., Hyderabad, India | ***Intern*** — *May 2018 - Jul 2018*
- Worked with the electronics testing team on LabVIEW to develope various programs that help in collection of data for a testing software for a team specific unit.

PROJECTS

Digitization of survey documents — *Sep 2022 - Dec 2022*
- The key-value pairs are extracted from document using LayoutLM model and fine-tuned with FUNSD dataset.
- With keys as questions, the document was digitized using Google forms with an accuracy of 95.6%.

Deep Neural Network for Image Classification — *Sep 2022 - Dec 2022*
- Formulated a novel approach based on concept of Residual Networks along with Bottleneck blocks.The resultant CNN is trained on CIFAR10 dataset to get 93.8% accuracy.

Machine Learning for wireless communication — *Aug 2019 - May 2020*
- Implemented a neural networks based autoencoder to physical layer of communication systems to reduce BLER.
- Designed a noise reducing transmission method minimized the BLER by 0.6% under AWGN environments.

Colorization of Black and White Images — *Aug 2019 - Dec 2019*
- Converted input gray-scale images to an output colorized image that represents semantic colors and tones of input by a Deep neural network model.

Multi Object Tracking — *Feb 2019 - Apr 2019*
- Tracked multiple objects in a video by initiating a KCF (Kernalized correlation filter) for the position prediction of each object that has to be tracked in the next frame with an accuracy of 85.9%.

Text Detection from Images — *Aug 2018 - Nov 2018*
- Implemented a method to extract text of some specific fonts and range of font sizes by stroke size, connected components and image processing techniques. Optical character recognition is used to recognize the result text.

TECHNICAL SKILLS

Languages: Python, C, HTML, Javascript, C++, SQL, Verilog, VHDL

Technologies/Frameworks: Jupyter, Matplotplib, Numpy, Pandas, Scikit-learn, Gym, PyTorch, Tensorflow

Developer Tools: VS Code, MATLAB, JupyterLab, Webots, Vivado, LTspice, LabVIEW, Arduino IDE, Docker

VOLUNTEER EXPERIENCE

- Endorsed and helped cleaning roads and lakes through villages around Tirupati as a part of NSS program in India.
- Taught STEM skills to at-risk students in government funded schools of rural India 6hrs/week since 2016