PRASHANTH REDDY DUGGIRALA

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EDUCATION

University of California, Davis *Expected 2021*
Master of Science in Computer Science

Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram
Bachelor and Master of Technology in Computer Engineering, CGPA: 8.82/10 *May 2019*

RESEARCH & WORK EXPERIENCE

Machine Learning Intern, Center for Innovation, L. V. Prasad Eye Institute *May 2018 - May 2019*

- **Generative Adversarial Image Generation:** Research and development of models to generate a large dataset of images with high diversity (e.g., in subjects, head pose, camera settings) and realism, while still maintaining granular control over the above attributes using Deep Convolutional GANs.
- **Video based Gaze estimation of infants:** Development of Convolutional Neural Network based machine learning models for predicting eye-gaze direction and development of approaches for 3D head pose estimation based on facial landmarks to determine yaw, roll and pitch from two dimensional images.

Summer Intern, Leoforce Inc. *June 2017 - July 2017*

- Worked with production database performance analysis and optimization team using MySQL server and Workbench.
- Monitored and profiled slow, unresponsive queries and stored procedures and improved their execution time so that the load on the server CPU is relieved and their application may become faster.

Summer Intern, OSI Systems Inc. *May 2016 - July 2016*

- Worked with AWK and Shell scripting languages with some understanding of VB Script for text processing.
- Developed efficient algorithms for testing the baggage flow control in airport security screening machine systems and achieved a significant improvement in performance from before.

Teaching Assistant, Department of CS, IIITDM *Oct 2018 - May 2019*

Machine Learning, Data Structures and Database Systems for 90-100 students in each.

SKILLS

Computer Vision - Machine learning - Deep Learning - TensorFlow - PyTorch - Python - OpenCV - CUDA - OpenGL(Basic)

RELEVANT PROJECTS

Real time Camera Based Ophthalmic Diagnosis, *Engineering The Eye Hackathon*

- Designed and prototyped an algorithm using OpenCV and Python to initially diagnose the symptoms of Duane Syndrome and later extended the functionality to estimate various anthropometric measures of the human eye by analyzing input from an RGB camera.

Correlating Crime and Education to predict incidence of crime in India, *Data Mining*

- Predicted the incidence of crime in the districts of Indian states based on the education parameters.
- Analyzed how the markers of education and literacy in a region affect crime using Data Analytics and Machine Learning.

Sentiment analysis of Twitter data, *Big Data*

- Used the Twitter REST Application Programming Interface (streaming API) to access twitter data and estimated the public's perception (the sentiment) of the tweets.

Melanoma Recognition in Dermoscopy Images, *Pattern Recognition*

- Devised Deep Convolutional Neural Network based algorithm using Tensorflow and transfer learning to visually diagnose Melanoma, the deadliest form of skin cancer. The algorithm would distinguish this Malignant skin tumor from two types of benign lesions (Nevi and Seborrheic keratosis) by analyzing images of skin tissue.

Data analysis and prediction, *BuddiHealth Hackathon*

- Analyzing and predicting bike sharing demand based on Capital Bikeshare's data using data analysis and Machine learning models using Python and libraries like Scikit, Numpy, Matplotlib and Seaborn.

HOPE-bot, *Product Design*

- Designed and prototyped a semi-autonomous, all-terrain robot which can used in earthquake rescue and hostage situations. It uses IR cameras, a TFT screen and other sensors to live stream real time data over to mobile and web app using on-board Raspberry Pi.