PRASHANTH REDDY DUGGIRALA

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EDUCATION

University of California, Davis *Expected June 2021*
Master of Science in Computer Science, GPA: 3.9 out of 4.00

Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram
Bachelor and Master of Technology in Computer Engineering *May 2019*

RESEARCH & WORK EXPERIENCE

Graduate Researcher, RUbiNet Lab, UC Davis *Current*

· Working on Visual Saliency Prediction and autism spectrum disorder (ASD) diagnosis in children using Deep Learning approaches on gaze-tracking data under the guidance of Prof. Sen-Ching Cheung and Prof. Chen-Nee Chuah.

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

· **Generative Adversarial Networks for Image Generation:** Research and development of models to augment a large dataset of images to increase its diversity (e.g., in subjects, head pose, camera settings) and realism, using Deep Convolutional GANs.

· **Video based Gaze estimation of infants:** Development of Convolutional Neural Network based ML and 3D head pose estimation based on facial landmarks models for unconstrained non-intrusive gaze tracking of infants through a pediatric perimeter device.

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

· Machine Learning, Data Structures and Database Systems.

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 to improve their execution time so that the load on the server CPU is relieved and the application to become faster by 25%.

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 in order to develop efficient algorithms for testing the baggage flow control in airport security screening machine systems and achieved a ten-fold improvement in performance.

TECHNICAL SKILLS

Python - Java - HTML - C++ - TensorFlow - PyTorch - OpenCV - Pandas

RELEVANT PROJECTS

tsvd4j: Thread Safety Violation Detection for Java, *Operating Systems*

· Developed an active *delay-injection* tool to monitor multi-threaded Java applications by instrumenting target application bytecode and performing lightweight tracking and dynamic *Happens-Before Inference* to report thread-unsafe behaviors and concurrency bugs in the application.

Intracranial Haemorrhage Detection, *Deep Learning*

· Classifying multiple types intracranial hemorrhages with single slice CT scans through a single-stage, end-to-end, convolutional neural network framework based on InceptionNet and EfficientNet using Python and TensorFlow and achieved an average AUC score of more than 0.92 across 5 classes of hemorrhages.

Decentralised Resource Sharing Platform on Ethereum Blockchain, *Distributed Databases*

· Built a decentralized application for the Ethereum blockchain using Solidity and Truffle. It is a prototype of a peer-to-peer cloud storage system that allows users to share the idle storage of their hard drives to other potential users developed on web using node.js and HTML.

Real-Time Camera Based Ophthalmic Diagnosis Tool, *Engineering The Eye Hackathon*

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

Melanoma Recognition in Dermoscopy Images, *Pattern Recognition*

· Built deep CNN based framework using transfer learning to visually diagnose Melanoma, the deadliest form of skin cancer by analyzing images of skin tissues to distinguish malignant skin lesions (Melanoma) from other benign lesions (Nevi and Seborrheic keratosis) and achieved an AUC score of more than 0.94.