Prashanth Reddy Duggirala

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EXPERIENCE

University of California, Davis — *Graduate Student Researcher*

OCTOBER 2019 - PRESENT

Developed deep stacked autoencoder based networks and progressive training techniques for unified representation learning from multiple modalities of data in the health domain.
Visual Saliency Prediction and autism spectrum disorder (ASD) diagnosis in children: Developed models to recognize gaze patterns and differences between Autistic and typically developed individuals using computer vision and eye-tracking technologies.

Center for Innovation, LVPEI, Hyderabad—*ML Intern*

MAY 2018 - OCTOBER 2018

Eye Image Synthesis using Generative Adversarial Networks: Researched and developed models to generate synthetic eye images for data augmentation using Deep Convolutional GANs and analysed the performance of the DCGAN using a custom metric based on categorical cross entropy loss produced on a pre-trained classifier to quantify the realness of the generated data.

EDUCATION

University of California, Davis— *M.S. Computer Science, 3.96*

SEPTEMBER 2019 - SEPTEMBER 2021

Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram — *B.Tech. Computer Engineering, 8.92*

JULY 2014 - JULY 2019

PROJECTS

WorldNewsDashboard — *full stack web application*

A web application aggregating news headlines from countries all over using an interactive world map as the primary UI element. Functionality includes, personal login, mark articles as read and save articles for later.

Used Java Spring boot framework to develop RESTful APIs to access data from NewsAPI and MongoDB atlas, frontend developed in React and Bootstrap. Authentication implemented using OAuth2, JUnit and Postman for testing, Git and GitHub Actions for version control and CI/CD.

tsvd4j — *Thread Safety Violation Detection for Java*

Developed an active *delay-injection* tool to stress test and monitor multithreaded Java applications by instrumenting target application bytecode and performing lightweight tracking and Inference to report thread-unsafe behaviors and concurrency bugs with 10% lower overall execution overhead than existing non delay-injection based dynamic analysis methods on a benchmark application.

Used Java Instrumentation API + ByteBuddy to develop the tool and tested our code using mockito.

SKILLS

Application Development:

Java - Spring Boot, REST, MVC, JPA, JUnit
Databases - MySQL, MongoDB
Web - React, Bootstrap, OAuth
DevOps: Git, Docker, GitHub Actions

Machine/Deep Learning:

Python - pyTorch, Tensorboard, Pandas, numpy, openCV, CUDA

PUBLICATIONS

Sidrah Liaqat, Chongruo Wu, **Prashanth Reddy Duggirala**, Sen-ching Samson Cheung, Chen-Nee Chuah, Sally Ozonoff, Gregory Young,

Predicting ASD diagnosis in children with synthetic and image-based eye gaze data,
Signal Processing: Image Communication,
Volume 94,
2021,
116198,
ISSN 0923-5965,
https://doi.org/10.1016/j.image.2021.116198