

DHEERAJ REDDY PAILLA

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EDUCATION

Georgia Institute of Technology

MS in Computational Science & Engineering

Jan 2021 - May 2022

4.0/4.0

IIIT Hyderabad

B. Tech in Computer Science & Engineering

2016-2020

7.76/10

EXPERIENCE

Research Engineer

Aug '20 - Dec '20

SubtlAI

- Worked on the Subtl Bot project to develop an ingestion pipeline to read, understand and index documents for search
- Developed, tested, and deployed several modules to parse documents using Tesseract, OpenCV, and Sentence-BERT
- Clients included the largest bank in India (SBI) and a primary defence contractor to the Indian Army

Research Intern

May '19 - Jul '19

Siemens

- Worked on the Intelligent Traffic Management project to detect and classify vehicles on Indian roads using CenterNet with a DLA34 backbone achieving mAP of 88, improving existing pipeline by 7%. Deployed this model to Jetson TX2.
- Made 2 submissions to the Vision Meets Drone challenge at ICCV 2019 - finished 5th in object detection in videos challenge, and 7th in object detection in images challenge using CenterNet with Hourglass104 backbone

SDE Intern

Jun '17 - Jul '17

Commercial Bank of Qatar

- Designed and developed new pages of the bank's mobile application for Eid festival offers using Angular

SDE Intern

Aug '17 - Nov '17

TRI3D

- Developed a prototype garment scanner similar to CamScanner to scan and auto adjust pictures of traditional Indian sarees using React Native

AWARDS & ROLES

- IIIT Hyd Dean's Research List - Top research contributor (2018-19 & 2019-20)
- IIIT Hyd Dean's Merit List - Top 20% of class (2018-19)
- Teaching Assistant - Software Systems Applications & Development, Big Data & Policing, Privacy & Security on Social Media, Real Analysis, Software Engineering, Computer Networks
- VisDrone Object Detection Challenge @ ICCV 2019 - 5th in videos, 7th in images
- IIIT Hyd Students' Parliament - Elected representative for 3 terms (2016-2019)
- IIIT Hyd Clubs Council - Secretary (2018), Undersecretary (2017)
- Felicity - College fest - Web Dev
- World Scholars' Cup 2015 - #1 Debater, #1 Team Debate, #2 Overall finish in Qatar regional round

SKILLS

Programming: Python, C/C++, Go, Bash

Software Dev: Flask, Django, JS, React, Angular, MySQL, Docker, React Native

Machine Learning: PyTorch, Keras, Transformers

ACADEMIC PROJECTS

BASH

Made a clone of the Bash terminal in C using system calls, threading and multiprocessing

PASTEBIN

Developed a clone of the Pastebin website using vanilla JS and Python's Flask

PROXY SERVER

Built a non-blocking + caching HTTP web proxy

ULTIMATE TIC-TAC-TOE BOT

Developed the heuristic of a bot that plays Ultimate Tic-Tac-Toe on a 4x4x4x4 grid, using alpha-beta pruning and Zobrist hashing

GAME DEVELOPMENT

Developed my version of popular games - Pacman Killer and Legend of Zelda (OpenGL in C++), Tunnel Rush (WebGL in JS), and Bomberman (Python)

BIRD-V-DRONE

Binary classifier to distinguish between birds and drones using Bag of Visual Words + kNN + SIFT

IMAGE SUPER RESOLUTION

Implemented a deep learning model proposed by Dong et al to achieve single image super resolution

HATE SPEECH ANALYSIS

Collected and analyzed hate speech on alt-right website Gab during the Pittsburgh synagogue shooting in 2018. Evolved into research work on antisemitism published at ACM WebSci 2021

URBAN MIGRATION SIMULATOR

Cellular Automata + linear regression model to simulate population flow into cities

DRUG PROPERTY PREDICTION

Implemented a deep learning model to predict a drug molecule's energy given its SMILES+XYZ data

PUBLICATIONS

- Hemank Lamba, Shashank Srikanth*, Dheeraj Reddy Pailla*, Shwetanshu Singh, Karandeep Juneja, and Ponnurangam Kumaraguru. **Driving the Last Mile: Characterizing and Understanding Distracted Driving Posts on Social Networks**. Proceedings of the 14th International AAAI Conference on Web and Social Media. 2020.
- Mohit Chandra, Dheeraj Reddy Pailla*, Himanshu Bhatia*, Aadilmehdi Sanchawala, Manish Gupta, Manish Shrivastava, Ponnurangam Kumaraguru. **"Subverting the Jewtocracy": Online Antisemitism Detection Using Multimodal Deep Learning**. Proceedings of the 13th ACM Conference on Web Science. 2021.

* - equal authors by contribution