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 Sutbl 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 & Development 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.
- Secured **rank 5** in object detection in videos, **7th** in object detection in images in the Vision Meets Drone Challenge at ICCV 2019 using CenterNet with Hourglass104 backbone

Software Development 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

Software Development 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

AWARDS & ROLES

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

SKILLS

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

Software Development: 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
Built a 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
Developed a 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

1. 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.

2. 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