SOWMITH KUNAPANENI
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EDUCATION:

Graduate Student - Computer Science Jan 2023 - Present
University of Alabama at Birmingham, Alabama, USA
Bachelor of Technology - Electronics and Communications Aug 2016 – Sept 2020
Velagapudi Ramakrishna Siddhartha Engineering College, Vijayawada, India

RELEVANT COURSES:

Programming Languages - CS501, Database Systems - CS610, Artificial Intelligence - CS760, Adv Algorithms - CS752, GPU Programming - CS729.

EXPERIENCE:

HARP Lab - University of Alabama at Birmingham ***Graduate Research Assistant*** May 2023 - Present

- Working as a Graduate Research Assistant under Dr. Gilray, doing Programming Languages Research.

Tata Consultancy Services, Hyderabad **Systems Engineer** Oct 2020 - Nov 2022

- Worked as a Python developer; gathered business requirements, designed, developed, and delivered end-to-end automation of multiple business processes.
- Implemented automations with workflows involving SAP, One Navision, SharePoint, Excel, SQL databases and Web Automation.
- Employed Python and power-shell scripting, OCR, and various other technologies/tools to build adaptive and robust automations.
- Worked in the Workload Management (WLM) team. Orchestrated several bots/automation running concurrently to process jobs in the queue.
- Built CLI tools, which pull data from APIs and multiple SQL tables and interact with ERP systems, Celonis and more.
- Wrote scripts to gather and merge log files and to extract meaningful insights, making analysis more accessible.

PROJECTS AND INTERNSHIPS:

Optimization of Antenna Parameters using Particle Swarm Optimization (PSO) and ANN, Assoc Prof. Dr. Praveen Naidu Vummadisetty, VRSEC, Vijayawada May 2019 – Sept 2020

- In a team of three, automated the tuning of structural parameters of a Microstrip Antenna. Employed Artificial Neural Network (ANN) and Particle Swarm Optimization (PSO).
- Modelled an antenna in MATLAB to search the sample space to find an ideal set of parameters to satisfy the given objective function.
- Created a Micro-strip antenna in CST; analyzed and identified the structural parameters that have a meaningful impact on the performance and frequency band. Sampled those parameters, wrote scripts in MATLAB to simulate the data points in CST, and aggregated the results.
- Created an ANN model from the result dataset and used PSO to optimize the network layer weights. Then, used PSO again to identify the ideal parameter set from the sample space to satisfy the objective function.

Analysis of Geo-Fenced Tweet Data during the Covid Surge, IITM Research Park Sept 2021– Oct 2021

- Gathered and visualized geofenced tweet data, i.e., tweets originating from geolocation over some time and filtered using keywords like ‘help,’ ‘oxygen,’ etc.
- Visualized the trends in the number of tweets from a location with the mentioned keywords over a few days and compared them with older data for the same geo-fenced queries.
- Used Python to visualize and analyze, and used Twint, an open-source tool to gather the tweet data.