Sravani Wayangankar

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EDUCATION

Indiana University Bloomington, Bloomington IN Aug 2021 – May 2023
Master of Science in Computer Science
Coursework*: Artificial Intelligence, Machine Learning in Signal Processing, Network Science, Data Structures and Applied Algorithms, Intro to Bioinformatics, **Project with Eli-Lilly**: Regulatory NLP Information Retrieval Improvement using Ontology*

Savitribai Phule Pune University, Pune, India Aug 2015 - Jun 2019
Bachelor of Engineering (Computer Engineering) **CGPA – 8.45 / 10.0**

TECHNICAL SKILLS

Languages: Python, C, C++, Java, R, HTML, CSS, JavaScript, Node.js, Android development
Databases: **MySQL**, MongoDB, SAP S/4 HANA, Neo4j, Firebase, Hadoop
Services: AWS EC2, Google Compute Engine, Google Cloud Functions, OpenStack
Libraries: Numpy, Pandas, Sklearn, Dlib, OpenCV, TensorFlow, Keras, SciPy, PyTorch, Matplotlib, Seaborn, Plotly, ggplot2, network
Ongoing learnings: Containers and orchestration (Docker, Kubernetes), DevOps

WORK EXPERIENCE

***Research Assistant,* Indiana University Bloomington** Jan 2022 – Present
- Optimized time-consuming, highly complex graph algorithms using **C and C++**, utilizing sparse matrix objects from **GraphBLAS C API**, and researching its applications in Network Science and Machine Learning.
- Used the **LAGraph** library as an abstraction over GraphBLAS to work with **lower-level** graph algorithms for network analysis.
- Conducted feasibility studies & literature surveys to apply different linear algebra techniques to graph embeddings.

***Associate Instructor* - Intro to Python Programming, Indiana University Bloomington** Aug 2021 – Dec 2021
- Instructed Undergraduate students in **Python Programming** from scratch & conducted **interactive laboratory sessions** in **key topics** like list comprehension and slicing, file handling, using python shell, generators, and guided students in collaborative projects.
- Organized in-class activities, monitored virtual forums, conducted office hours & graded assignments, written & practical exams.

***Associate Software Engineer,* Accenture Solutions Pvt. Ltd.,** Pune, India Oct 2019 – July 2021
- Built **operational workflows** and manufacturing scenarios for clients by eliciting stakeholder's requirements, prioritizing configurations, and demand forecasting as a **Functional Consultant** allowing clients to plan production timelines reducing excess resource usage.
- Identified areas of improvement by **designing, developing, and testing dashboards** with **S/4 HANA** database in **SAP Production Planning (SAP PP)** & **Quality Management (SAP QM)** to generate performance reports & **usable insights** for business processes.

***Data Science Intern,* NES,** Pune, India Oct 2018 – Feb 2019
- Built an android application split into 2 modules that targeted the main concerns of the visually & hearing impaired.
- "Virtual Ear": implemented speech to text & hand gesture recognition using **CNN** & **Google Speech** converting sign language to audio.
- "Virtual Eye": created a text detection & recognition model with **SSD** (Single Shot Multibox Detector) and **PolyNet CNN** by taking a video input and reading out the text present using **SQL** database.

PROJECTS

Nucleotide Prediction and Mutation analysis Nov 2021 – Dec 2021
- Analyzed & created valid DNA sequence alignments with **Needleman Wunsch** & **Smith Waterman** alignment algorithms.
- Predicted the feasible nucleotides at a position in a sequence using the modification of **Hidden Markov Model** & **Viterbi** algorithms.
- Classified the data using the **Stochastic Gradient Descent** and **KNN** into broader classes of viruses using the given genome data and predicted the probability of mutations that will destroy the virus with an **accuracy of 93%.**

Preventing retail crime using Facial recognition Jan 2019 – May 2019
- Spearheaded a team of 3 to detect & recognize shoplifters using **Raspberry Pi 3** and **ResNet CNN** over a real-time video feed with **Softmax & LBP** classifier achieving **98% accuracy**.
- Utilized IFTTT application to incorporate a Burglary Alarming System alert store owners & authorities for rapid response, **lowering the crime rate by 91%.**

Government Chat-Bot for complaint registration, resolution, and information relay Sept 2018 – Dec 2018
- Deployed an **Android** application to relay water & power cut information in different areas with a chat-bot to register & resolve complaints using **NLTK library**.
- Categorized processed complaints with **Multinomial Naive Bayes** for appropriate segmentation & routing **reducing MTTR**-Mean Time to Resolution by over **90%** & setup **Firebase triggers** using **Cloud Functions** to notify citizens with a suitable reply & resolution time.

Sentiment Analysis of Political Influencers on Twitter May 2018 – Aug 2018
- Scraped & preprocessed 42k tweets and performed standard NLP **pre-processing** and noise removal techniques with **tweepy**, **textblob**, and **Regex (RE) library** to evaluate pre-election sentiments of political influencers.
- Generated word embedding using **TF-IDF**, **Word2Vec** and **GloVe** for feature extraction and built classification models for the sentiments with **SVM, Logistic Regression, Random Forest** and **XGBoost** achieving best **F1 score of 0.71.**

Trip History Analysis in R Jan 2018 – Apr 2018
- Evaluated the impact of local hotspots in attracting tourists to vacation destinations from the booking.com hotel listings database by performing EDA using **Plotly** and **ggplot2** and performed PCA to identify the most impacting features.
- Built a **CART** model to categorize tourist behavior and predict and recommend the likelihood of a tourist to visit a destination from **1.6 million** hotel reservations & trip itinerary data to obtain a**n AUC Score of 0.96.**

PUBLICATIONS

- Survey of Internet of Things in the Fog: **IEEE Global Conference on Wireless Computing and Networking 2018**
- Face Recognition using CNN: **International Journal of Advance Research, Ideas, and Innovations in Technology**
- Convolutional Neural Networks: **International Journal of Advance Research, Ideas, and Innovations in Technology**