Supriya Subramanian

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Detroit, MI
GitHub- https://github.com/supsub01

Education:

Masters in Computer Science The University of Texas at Dallas, TX (2019-2021)
Data Science Specialization: Machine Learning, Natural Language Processing, Design and Analysis of Algorithms
Jonsson School Graduate Study Scholarship Recipient GPA-**3.94**

Bachelor of Electrical and Electronics Engineering BITS Pilani, Hyderabad (2015-2019)

Work Experience:

Aptiv, Algorithm Developer | C++, Python (June 2021-*Current*)
Developing **Driver Assist Software** to track 360° view of host vehicle for Ford, Maserati and Stellantis.
- Programming Radar and Vision Fusion Vehicle Software to support critical safety features like Blind Spot Monitoring, Automatic Emergency Braking and Cross Traffic Alert, integrated into clients' production vehicles.
- Root Causing and Implementing Solutions to solve issues during vehicle testing for enhanced safety performance.
- Implementing Regression and Unit Testing for Continuous Integration and Development of Tracker Software.

Food Is Good, Software Engineering Intern | HTML, JavaScript, Web Scraping (Dec 2020-Jan 2021)
Developed **Google Chrome Extension** to flag foods matching user's dietary preferences to assist online grocery shopping.
- Developed Front End interface for *100+* grocery websites to grow user base, resulting in *76%* increase in user signup.
- Expanded data extraction functionality to generate insights into user's shopping behaviors and application engagement.
- Implemented Jest Test to automate verification of Chrome Extension functionality, ensuring a 100% success rate.

Aptiv, Algorithm Development Intern (June 2020-August 2020)
- Refactored C++ codebase for Perception Software by improving Cyclomatic Complexity, Throughput and Readability.
- Achieved 2% runtime reduction in Safety Systems to reduce latency for improved feature reaction time.

Projects:

Traffic Light Classification using Machine Learning | Python, Matlab **|** Aptiv
- Built a data extraction pipeline to obtain reliable ground truth data to classify Traffic Lights from radar inputs. Built and fine tuned an SVM model through feature analysis, model selection and hyperparameter tuning.
- Achieved *95.6%* classification accuracy which led to improved object tracking for autonomous vehicles.

Natural Language Processing projects | NLP, NLTK, SpaCy **|** UT Dallas
- *Information Extraction*: Developed a pipeline to derive structured information from unstructured data by extracting lemmas, Part-of-speech tags, parse-tree patterns, hypernyms, meronyms etc. for semantic processing of sentences.
- *Automatic Short Story Summarisation Tool*: Created an application to generate 5 line summaries of short stories using Text Rank Algorithm to allow for quick content selection.
- *Sentiment Analysis Tool:* Used the Naive Bayes algorithm during the 2020 Presidential Election to analyze sentiment by classifying negative and positive tweets containing the keyword "Trump" extracted from Twitter. Additionally, employed this tool for email spam classification and movie review sentiment analysis.

Ingredient Checker Application| HTML, CSS, Python, Selenium Web Scraping | Personal Project
- Created a web-scraping application to quickly check if products contain user-flagged ingredients for individuals with dietary restrictions. Enhanced efficiency of manual ingredient scanning in grocery stores through automation.

Computer Vision project: Instagram Caption Generator | ML Framework: PyTorch | Personal Project
- Developed an application to generate an instagram caption for an input image by leveraging Hugging Face *Vision Transformer-Encoder Model* (ViT) and *Cosine Similarity.* Identified similar Instagram images from training data, and provided captions associated with the top 10 similar images. Solved the 'What should I caption my post?' problem.

Technical Skills: Python, Java, C, C++, SQL, HTML, CSS, JavaScript, Machine Learning, NLP