SWARNALATHA NATARAJAN

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Education

- **University of Colorado Boulder** — Boulder, CO
  Masters in Computer Science; GPA 3.88/4 — Aug. 2019 - May. 2021
- **SSN College of Engineering, Anna University** — Chennai, India
  Bachelor of Engineering in Computer Science and Engineering; GPA 8.5/10 — July. 2015 - May. 2019

Experience

- **DevOps Engineer, Intern** — Boulder, CO
  Spectra Logic — May. 2020 - Present
  Computing metrics for test automation, recording them in BigQuery and visualizing the results in Go.
- **Graduate Student Staff** — Boulder, CO
  University of Colorado Boulder — Aug. 2019 - Dec. 2019
  Assisted the professor-in-charge and mentored students by providing supplemental information on the coursework of the course "Computer Science 1: Starting Computing-Engineering Applications".
- **Software Engineer, Intern** — Chennai, India
  Ajax Media Technology — Nov. 2017 - Dec. 2017
  - **Word Cloud Generator:** Used latest NLP techniques to design and develop a GUI application using NLTK in Python to generate a word cloud from a given e-book.
  - **Profanity Detector:** Designed and developed an application to detect NSFW content in video and audio using Yahoo Open NSFW content and CMU Sphinx.
  - **Sentiment Analysis:** Analyzed over 0.5 million news articles and coherently visualized the findings using Vader with 85% accuracy.

Projects

- **COVID-19 Dashboard:** — Jan. 2020 - May. 2020
  Designed and developed a platform that is a one-stop source for tracking and visualizing COVID numbers world-wide, social media trend analysis, getting directed links to news articles through topic modeling and tracking the availability of basic home supplies at stores. The application was developed using Express.js, React.js and Google BigQuery, containerized and deployed on a Kubernetes cluster.
- **Movie Hub (Winner, Best Use of Twitter API, T9 Hacks):** — Feb. 2020
  Designed and developed a platform that is a one-stop shop that tells on which streaming platform one can find a particular movie, view IMDb details and display tweets related to the movie using Python, Flask and Jinja.
- **Interpretable Machine Learning for Diabetic Patient Readmission:** — Aug. 2019 - Dec. 2019
  Developed an interpretable Machine Learning model to predict if a diabetes patient is going to be re-hospitalized. Also, the factors leading to potential readmission, which could improve the treatment of the patient, were identified using LIME and SHAP in Python.
- **Analysis of Climate Change and its potential impacts:** — Aug. 2019 - Dec. 2019
  Analyzed several parameters that influence climate change by estimating, visualizing and predicting the carbon footprint per country based on the data provided by World Bank; predicting drought by performing Time series analysis on Standardized Precipitation Evapotranspiration Index (SPEI) using LSTM and ARIMA; and analyzing the growth in population over time and understand its correlation with agricultural yield.
- **Multimodal Analysis for logistic planning during disaster:** — Dec. 2018 - Feb. 2019
  Classified tweets as request and offer, and mapped them in order to help the government as well as humanitarian organizations to perform relief operations immediately. Performed real-time multimodal analysis of twitter's text and image data using RNN and CNN respectively. An accuracy of 75% was achieved.

Technical Skills

- **Programming Languages:** Python, Java, Go, C, C++, Matlab, JavaScript, PHP.
- **Technologies:** Express.js, React.js, Git, SQL, MongoDB, BigQuery, Docker, Kubernetes, Google Cloud Platform, Jenkins, HTML5, CSS3, Flask, Jinja, Swagger, Android SDK, Natural Language toolkit, Scikit-learn, Numpy, Pandas, OpenCV, Java Servlets, Adobe XD.