Shanmukh Swaroop Srinivas

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EDUCATION

- **University of Massachusetts Amherst**   *Expected Graduation: Dec '22*
  Master of Science in Computer Science   *GPA: 4.0*
  Relevant courses: Advanced Algorithms, Machine Learning, Theory and Practice of Software Engineering

- **Indian Institute of Technology (IIT) Madras**   *May '20*
  Bachelor of Technology in Chemical Engineering
  Relevant courses: Data Structures and Algorithms, Graph Theory

PROGRAMMING SKILLS

- **Languages**: Python (Fluent), C++ (Familiar)   **Web Development** : HTML, CSS, Javascript, PHP, MySQL, AJAX

- **Technologies**: Git, MATLAB, GNU Octave, LaTeX   **Libraries** : Scikit-learn, NumPy, TextBlob, NLTK, Pandas

EXPERIENCE

- **Aspen Technology**   Skills: Python, Scikit-learn
  Data Engineer Intern   *May '21 - Aug '21*
  - Enhanced the functionality of **Aspen ProMV^{TM}** - a Multi-Variate analysis tool used by chemical plants.
  - Researched and implemented various **Clustering** algorithms and performed deep-dive analysis on **historical time-series data**.
  - Constructed a **Failure-agent** for Batch processes at Chemical plants.

- **JP Morgan Chase & Co.**   Skills: Python, React.js, Sckikit-learn
  Software Engineer Intern   *May '19 - Jul '19*
  - Visualized progress of employees using a **React.js** based web application in collaboration with a team of 25 people.
  - Forecasted bank balances using a **Supervised Machine Learning** model with **99.73%** prediction accuracy, earning award as a part of JP Morgan Chase's **Global Hackathon**.
  - **Productionized** both the projects during the internship.

- **Anyelp - an on-demand services company**   Skills: HTML, CSS, Javascript, PHP, MySQL, AJAX
  Freelance Software Developer   *May '20 - Jul '20*
  - Developed and integrated **REST APIs** with the mobile application which fueled an **additional major revenue stream** through the Service Click-and-book functionality. [Project link]
  - Succeeded in developing **Full Stack Web Applications** to book at-home services by integrating **REST APIs** and **Google Maps APIs**. [Project link]

PROJECTS

- **SafeSpot - HackUMass VIII** [Github]:   Skills: Python, Flask, React.js
  - Produced a **COVID-19 Safety Score** for any place on the globe using Scraped Google Reviews and Sentiment Analysis of Local Tweets about vaccines.

- **Cryptocurrency Trading Algorithm** [Github]:   Skills: Python, TextBlob, NLTK
  - Incorporated **Sentiment Analysis** on Scraped Relevant Articles and Swap Funding Rate.
  - Generated a profit of $\sim$**1200%** during backtesting.

- **Lowest pollution route - Sangam ML Hackathon (Winners)**   Skills: Python, Scikit-learn
  - Processed GPS pollution data from multiple mobile sensors & handled missing GPS data using vector calculus.
  - Built **Spacio-Temporal prediction models** using **LSTM** and **SARIMA** to visualize pollution levels and to find the route with the lowest pollution.

- **Weighted Graph Partitioning Algorithm for Optimal Sensor Placement**   Skills: MATLAB
  Guide: Dr. Sridharakumar Narasimhan, IIT Madras   *Feb '19 - Sep '19*
  - Formulated an efficient partitioning algorithm by weighing the edges of a power system network which is conceptualized as a graph with the electrical lines as edges and buses as nodes.
  - Expedited the runtime of the algorithm by $\sim$**20%** after the proposed modification.
  - Presented a poster at Indian Process Systems Engineering Conference (IPSE), Chennai, India