Shanmukh Swaroop Srinivas

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Education

- **University of Massachusetts Amherst** — *Expected Graduation: Dec '22*
  Master of Science in Computer Science — *GPA: 4.0/4.0*
- **Indian Institute of Technology (IIT) Madras** — *May '20*
  Bachelor of Technology in Chemical Engineering (Minor in Systems Engineering)

Programming Skills

- **Languages**: Python (Fluent), C++ and Java (Familiar)
- **Technologies**: Git, MATLAB, LaTeX, JIRA, Agile
- **Web Development** : HTML, CSS, Javascript, PHP, MySQL, AJAX
- **Libraries** : Scikit-learn, NumPy, TextBlob, NLTK, Pandas, PyTorch

Coursework

- **Graduate**: Theory and Practice of Software Engineering, Advanced Algorithms, Secure Distributed Systems, Machine Learning, Neural Networks, System Defense and Test
- **Undergraduate**: Data Structures and Algorithms, Graph Theory, Multivariate Data Analysis, Discrete Mathematics

Experience

- **Aspen Technology** — Skills: Python, Scikit-learn
  Data Science Intern — *May '21 - Aug '21*
  - Enhanced the functionality of **Aspen ProMV™** - 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** with **10%** improvement in accuracy 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.

Projects

- **Freelance Software Development** — Skills: HTML, CSS, Javascript, PHP, MySQL, AJAX
  - 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]
- **SafeSpot - HackUMass VIII** [Github]: — Skills: NLP, 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: NLP, Python, TextBlob, NLTK
  - Incorporated **Sentiment Analysis** on Scraped Relevant Articles and Swap Funding Rate.
  - Generated a profit of ∼**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 ∼**20%** after the proposed modification.
  - Presented a poster at Indian Process Systems Engineering Conference (IPSE), Chennai, India