AMIT KUMAR

875 W 23rd St, Los Angeles, CA - 90007 Contact No.: +1 (213) 322-8409
E-mail: kuma310@usc.edu Github: https://github.com/amitasviper LinkedIn: https://www.linkedin.com/in/amitasviper/

EDUCATION

1. University of Southern California, Los Angeles (GPA: 3.6/4)   Dec 2019
   Masters of Science - Computer Science.
2. Army Institute of Technology, **Pune, India**   May 2016
   Bachelor of Engineering - Computer Science and Engineering

WORK EXPERIENCE

1. Workday Inc. | *Machine Learning Engineer Intern*   May 2019 - Aug 2019
- Worked on an NLP based project to improve the word embeddings by utilizing the contextual information of the words and comparing the performance of different frameworks like BERT, XLNet, FastText, Word2Vec on downstream ML models.

2. USC, Chan Division of Occupational Science | *Research Assistant (SDE)*   Feb 2018 - Mar 2019
- Developed and deployed backend servers(Rails, Java Spring) and frontend (ReactJS, Javascript, HTML) web applications on AWS as dockerized services. Published a research paper on brain imaging.
- Built data pre-processing and ETL pipelines for different machine learning models and applications.

3.   MavenHive Technologies, Bangalore, India | *Software Development Engineer*   Jan 2017 - Dec 2017
- Worked in the GoFood team of GoJek -Largest online food ordering platform in Indonesia (600k orders/day).
- Deployed multiple micro-services on cloud and improved the **response time** of RESTful APIs from **110ms to 35ms.**

4. Commvault, Hyderabad, India | *Software Development Engineer*   Dec 2015 - Jan 2017
- Built algorithm to download update packages in accordance with the dependency graph for Windows and Linux installers.
- Built multi-threaded application in Python to compile all the binaries and package them into a single executable.

5. GS Labs, Pune, India | *Software Developer Intern*   Jan 2015 - Dec 2015
- Led and developed "Resource Monitoring of Docker Containers (Restful API)" and published a research paper. (**Github**)
- Used HighCharts to plot live dashboards showing the live CPU/Memory/Network usage by containers.

TECHNICAL SKILLS

- **Languages**   : Python, Java, ReactJS, Ruby On Rails, Javascript, C\C++, HTML, CSS, Android
- **Tools**   : Docker, AWS (EC2, S3, RDS), Gitlab, CI/CD, Flask, Pandas, Numpy, Keras, Sklearn, Hadoop, Spark
- **Databases**   : Postgres, Redis, MySQL, SQLite, MongoDB, Firebase

PROJECTS

1. Tech Conference (Github)(Live Demo) | *Rest APIs, Postgres, Web Scraping, HTML, Javascript*
- Deployed a Web Service which sends Slack notifications of all the upcoming technical conferences in a region.
- Developed REST APIs(Rails) and a frontend for listing and adding new conferences and Postgres to store user information.
- Built a web and twitter crawler in Python, which periodically checks for any new information about upcoming conferences.

2. MovieRec - A Recommendation System (Github) (Demo) | *Machine Learning, Docker, Postgres*
- Used Spark to parallelize the Alternating Least Square algorithm for recommending new movies to users.
- Made use of MovieLens 20 Million rating dataset. Also created an inverting index using Elasticsearch for fuzzy searching.

3. Docker Container's Resource Monitoring (Github) | *Javascript, MongoDB, Html, HighCharts*
- Developed a centralized server with interactive real-time dashboards to monitor usage of RAM, CPU, I/O by a docker container.
- Designed the RESTful APIs using Python Flask, interactive graphs using HighCharts.js.
- Employed MongoDB to store the historical data of Docker containers.

4. Secure Logging-as-a-Service in Cloud (Github) | *Javascript, Public/Private Key Encryption, HTML*
- Calculated Hash chains of logs using Public/Private key encryption techniques to securely store logs generated in the cloud.
- Built this system even before blockchain technology became popular.
- Made use of Bloom filters for fast lookup.

5. Self Driving Car Convolutional Neural Network (Github) | *CNNs, Tensorflow, Machine Learning*
- Created a Convolutional Neural Network using Tensorflow to determine the angle of rotation of the steering wheel of an autonomous self-driving car. The model takes in the live video feed from the front view of the vehicle and can determine the angle by which the steering wheel should be rotated to keep the vehicle on road.

ACCOMPLISHMENTS

- Pipeline for Analyzing Lesions after Stroke (PALS). Published a Research Paper at Frontiers in Neuroinformatics.
- Published a research paper on Resource Monitoring Of Docker Containers.
- Google Play developer account holder and published more than 10 Android applications with over 200,000 application downloads on the Google Play store. Also, designed my own personal blog at https://amitasviper.github.io/