AMIT KUMAR

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EDUCATION

1. University of Southern California, Los Angeles (GPA: 3.67/4) Dec 2019
Masters of Science - Computer Science (Data 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* | *San Francisco* May 2019 - Present
   - ❖ Working on improving the word embeddings by utilizing the contextual information of the words and comparing the performance of different frameworks like BERT, XlNet, FastText, ElMo, Word2Vec, etc. on downstream models.

2. **USC Chan Division of Occupational Science** | *Research Assistant* | *Los Angeles* Feb 2018 - Mar 2019
   - ❖ Responsible for developing backend servers(Rails, Java Spring) and frontend (ReactJS, Javascript, HTML) web applications and deploying them on AWS as a dockerized service.
   - ❖ Used Named Entity Recognition and semi-supervised techniques in Snorkel to find relations between different entities.

3. **MavenHive Technologies** | *Software Development Engineer* | *Bangalore, India* Jan 2017 – Dec 2017
   - ❖ Worked in the GoFood team of GoJek -Largest online food ordering platform in Indonesia (600k orders/day).
   - ❖ Developed new features and optimized the existing APIs for a better response time using in-memory database Redis, Hystrix for making fault tolerance APIs, Reduced the APIs **response time** from **110ms to 35ms**.
   - ❖ Learned to deploy live backend systems using techniques like Canary deployment, Blue-Green deployment using HA Proxy for load balancing during deployments, database migrations, application versioning, etc.

4. **Commvault** | *Software Developer* | *Hyderabad, India* Apr 2016 – Jan 2017
   - ❖ Responsible for building and maintaining new features for the Windows and Linux installer of their product, Simpana.
   - ❖ Built multi-threaded application in Python to compile all the binaries and package them in a single executable.

TECHNICAL SKILLS

- ❖ **Languages/Frameworks**: Python, ReactJS, Java, Ruby On Rails, Javascript, HTML, CSS, Android, Tensorflow, Keras
- ❖ **Tools**: Docker, AWS (EC2, S3, RDS, Fargate), Git, Gitlab CI/CD, Flask, Pandas, TensorFlow, Hadoop, Spark
- ❖ **Databases**: MySQL, PostgreSQL, SQLite, MongoDB, Firebase

PROJECTS

1. Self Driving Car Convolutional Neural Network (Github) June 2018
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 follow the driving instructions.

2. CIFAR-10 Image Classification using CNN (Github) Apr 2018
Trained Convolutional Neural Network using tensorflow on CIFAR-10 image dataset. The image dataset contained several images of 10 different real-world things. The model was able to predict the name of the category the new belonged to.

3. MovieRec - A Recommendation System (Github) (Demo) Mar 2019
Built a recommendation system using the MovieLens 20 Million rating dataset. This system makes use of Collaborative filtering methods to come up with recommendations for a particular user. Used a biased version of Alternating Least Square solution to decompose the movie rating matrix into two smaller matrices. Also, created an inverted index for search and suggesting movies.
Technologies: Python, PySpark, ElasticSearch, Docker, Postgres, HTML, Javascript

4. Tech Conference (Live Demo) Jan 2017
Developed a web application which contains a list of the upcoming technical conferences in a particular region. Users could add new conference details, subscribe to the conference updates. This application also supports once click Slack app integration where you can query about conferences directly from the Slack app. The slack channel gets regular updates and suggestions and live twitter feeds directly from the web application.

5. Secure Logging-as-a-Service in Cloud (Github) Dec 2015
A system to maintain confidentiality and integrity of logs generated by virtual machines in a cloud via cryptographic methods thereby incapacitating cloud service providers from counterfeiting logs. Used the concept of encryptions and generating signatures to ensure the confidentiality and integrity of the logs generates. Made use of bloom filters for fast lookup.

ACCOMPLISHMENTS

- Pipeline for Analyzing Lesions after Stroke (PALS). Published at Frontiers in Neuroinformatics.
- Published a research paper on Resource Monitoring Of Docker Containers in an International Journal.
- Google Play developer account holder and published more than 10 Android applications with over 200,000 application downloads on the Google Play store.