KARTIK VASUDEV SHENOY

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EDUCATION

University of Southern California **January 2021 – Exp. Dec 2022**
Master of Science in Computer Science with Honors GPA: **4 / 4**
Courses: Advanced Natural Language Processing, Algorithms

University of Mumbai, India **August 2014 – June 2018**
Bachelor of Technology in Computer Engineering; **Department Rank: 1** GPA: **9.56 / 10**

EXPERIENCE

Bill.com **May 2022 – Aug 2022**
Machine Learning Engineer Intern San Jose, CA (Remote)
- Attempted to improve the amount identification model for invoices and statements uploaded by users. Generated a dataset of almost 1M documents from user data with ground truth checks along with annotated data for fine-tuning the current high-performance model.

Centre of Knowledge Graphs, **Information Sciences Institute, USC** **February 2021 – January 2022**
Research Assistant, Dr. Filip Ilievski Los Angeles, CA
- Constructed a repository of scripts for identifying low quality statements in Wikidata knowledge graph amongst **1.1 billion** statements on the basis of deleted, deprecated statements and constraint violations using kgtk library.
- Enhanced the **graph embeddings** of nodes using retrofitting based on **BERT** embeddings and structural, textual properties extracted from **Wikidata, Probase and DBPedia** datasets increasing **Spearman correlation from 0.66 to 0.73** on WordSim353 benchmark.

Barclaycard UK, Barclays Global Service Centre **July 2018 – December 2020**
Software Developer Pune, India
- Spearheaded the design of a system that helps in connecting the colleagues with available bandwidth and skillsets with the colleagues needing assistance in their work, using **AngularJS, Java, MySQL**, saving more than **900 man-hours** annually.
- Implemented **dashboards** for automated generation of real-time delivery metrics of more than 30 teams from Agile Central and Jira data sources which have been saving around **150 man-hours** annually. Bagged the **Barclays Award of Stewardship** for this initiative.
- Translated VISA, Mastercard scheme mandates into system code which processes millions of transactions every day.
- Devised a prototype fraud detection system to identify mule accounts by building a pipeline of **Kafka** queues, **Cassandra DB** and **PySpark** servers having an ensemble of Machine Learning models achieving a processing speed of **20ms per transaction**.

PROJECTS

- **Alexa Social Bot** - Contributed to the development of Alexa social bot including conversational elements such as **Sentence BERT**, offensive speech classification, **SNIPS NLU** intent classifier, **FSMs**, **DialoGPT** and other neural text generation modules.
- **Mera Caar – Guide to Car Components** [Link] [Github Link] - Developed an interactive **Angular** web-app to navigate around a car's skeleton and get details about the selected components such as engine, radiator, suspension with sound effects and visuals.
- **VeriSign** [Demo Link] [Github Link] - Deployed a **web application** to verify signatures and to detect forgery which achieved an accuracy of 96 % by training a **Convolutional Siamese Network** using the concept of One-Shot Learning.
- **Ayurvihar Health Tracker** – Led a team of seven students in planning and designing a **web and Android tablet-based** tracker and reminder system for child vaccinations, ailments specific to women and elderly from an impoverished area covered by the Community Center of K J Somaiya Ayurvihar Hospital.
- **ML Virtual Labs** [Demo Link] - Led a team of three to enable a **PHP-based web learning platform** for ML concepts such as neural networks, and optical character recognition. This lab has won the Global Online Laboratory Consortium International Lab Award.

SKILLS

Programming Languages: Python, JS, C++, Java **Database:** MySQL, MongoDB, CassandraDB

Web: Angular JS, NodeJS, Flask, PHP, Bootstrap, Hibernate, Spring **Machine Learning:** TensorFlow, Pandas, Keras, NLTK

Frameworks: Kafka, Hadoop, OpenCV, Numpy, PySpark **Tools:** AWS (EC2, RDS, S3, EKS), Heroku, Docker, Github, Firebase, Matlab, Android Studio, Google Colab

PUBLICATIONS

- "Viola: A Topic Agnostic Generate-and-Rank Dialogue System", 4th Proceedings of Alexa Prize (Alexa Prize 2020). [paper link]
- "A Study of the Quality of Wikidata". Preprint submitted to Elsevier, July 2021. [paper link] [Github link]
- "Real-time Indian Sign Language (ISL) Translation", 9th International Conference on Computing, Communication and Networking Technologies (ICCCNT). Published in IEEE Xplore, October 2018. [paper link] [Github link]

ACHIEVEMENTS & INVOLVEMENTS

- **Semifinalist** of Alexa Socialbot Grand Challenge 4 (2020-2021) as part of Team Viola.
- '**Vice-President - Membership**' of Barclays Pune 2 Toastmasters Club (January 2019 - June 2019).