KARTIK VASUDEV SHENOY

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EDUCATION

University of Southern California **January 2021 – Exp. Dec 2022**
Master's in Computer Science (Artificial Intelligence Specialization) GPA: **4 / 4**
University of Mumbai, India **August 2014 – June 2018**
Bachelor of Technology in Computer Engineering; **Department Rank: 1** GPA: **9.56 / 10**

EXPERIENCE

Information Sciences Institute, USC **February 2021 – Present**
Research Assistant, Centre of Knowledge Graphs Los Angeles, CA

- Enhanced the **dense representations** of nodes using retrofitting based on structural, textual properties obtained from **Wikidata, Probase and DBPedia** datasets.
- Constructed a framework for identifying low quality statements in Wikidata knowledge graph amongst **1.1 billion** statements on the basis of deleted, deprecated statements and constraint violations.

Barclays Global Service Centre **July 2018 – December 2020**
Software Developer, Barclaycard UK Pune, India

- Designed a tweets **sentiment analysis** and classification engine which fetches tweets where Barclays accounts were tagged in real-time to enable quick response achieving an accuracy of around **90 %** in pilot runs.
- Created a classifier application utilizing **ML algorithm Latent Dirichlet Allocation** to extract insights by generating ontologies from iOS and Android application reviews and customer complaints.
- 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 ML models.

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 neural text generation modules.
- **VeriSign** [Demo Link] [Github Link] - Deployed an 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.
- **Pneumonia Detection from Chest X-Ray Scans** [Github Link] - Trained a **CNN** on Chest X-Ray Scans with histogram equalization achieving 94.56 % accuracy and a recall score of 0.97.
- **Sign Language Translator** [Github link] - Managed a team of four to develop an Android application for recognizing Indian Sign Language used by the hearing- and speech-impaired. This included training **HMMs** for Gesture Recognition from gesture videos with 97.23 % accuracy and **k-NN** for Hand Pose Recognition with 99.7 % accuracy.

PUBLICATIONS & ARTICLES

- "A Study of the Quality of Wikidata". Preprint submitted to Elsevier, July 2021. [paper link]
- "Keystroke Dynamics Analysis and Prediction", Towards Data Science, Jan 2021. [Part 1 (EDA), Part 2 (Model Training)]
- "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]
- "An Effective Pixel-Wise Approach for Skin Colour Segmentation - Using Pixel Neighbourhood Technique", International Journal on Recent and Innovation Trends in Computing and Communication (IJRITCC), 2018. [paper link]

SKILLS

Programming Languages: Python, C++, Java, JS **Web:** LAMP stack, Angular4, NodeJS, Flask
Machine Learning: TensorFlow, Pandas, Keras, Scikit-learn, NLTK, Spacy **Database:** MySQL, MongoDB, CassandraDB
Frameworks: OpenCV, Numpy, Matplotlib, Kafka **Tools:** AWS (EC2, RDS, S3, EKS, Comprehend), Git, Firebase, Matlab, Google Colab, Heroku

ACHIEVEMENTS & INVOLVEMENTS

- **Semifinalist** of Alexa Socialbot Grand Challenge 4 (2020-2021) as part of Team Viola.
- Bagged the **Barclays Award of Stewardship** for automating the generation of real-time delivery metrics of more than 30 teams from Agile Central and Jira data sources. These dashboards have been saving around 150 man-hours annually.
- **Sir Dorabji Tata Trust scholarship** for securing 1st Rank in a class of 120 students during undergraduate studies.
- '**Vice-President - Membership**' of Barclays Pune 2 Toastmasters Club (January 2019 - June 2019).
- Member of Junior Chambers International Club (2019) – contributing to social service causes such as afforestation, blood donation.
- **Recruitment Coordinator** during under-graduation, managing logistics for around 40 companies and 800 students.