

# KARTIK VASUDEV SHENOY

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## EDUCATION

**University of Southern California**

**January 2021 – Present**

*Master's in Computer Science (Artificial Intelligence Specialization)*

**University of Mumbai, India**

**August 2014 – June 2018**

*Bachelor of Technology in Computer Engineering; Department Rank: 1*

*GPA: 9.56 / 10*

## EXPERIENCE

**Barclays Global Service Centre, Pune, India**

**July 2018 – December 2020**

*Graduate Analyst, Barclaycard UK*

- Designed a tweets sentiment analysis and classification engine which fetches tweets where Barclays accounts were tagged in real-time to enable quick response. Sentiment analysis and ontologies were used achieving an accuracy of around 90% in pilot runs.
- Devised a classifier application utilizing ML algorithm Latent Dirichlet Allocation to extract insights by generating ontologies from iOS and Android application reviews and customer complaints.
- Created 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.
- 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.
- Deployed a system that helps in connecting the colleagues with available bandwidth and skillsets with the colleagues needing assistance, using AngularJS, Java, MySQL, saving more than 900 man-hours.

**Virtual Labs, Indian Institute of Technology, Bombay**

**March 2017 – August 2017**

*Web Development Intern, Team Leader*

- Led a team of three to develop a [Virtual Lab](#) for the online demonstration of machine learning concepts such as neural networks, learning rules and optical character recognition. This lab has won the [Global Online Laboratory Consortium International Lab Award](#).

## PROJECTS

**VeriSign** [[Demo Link](#)] [[Github Link](#)]

- Deployed an application to verify signatures by comparing with the original one and to detect forgery.
- 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 is connected to a remote Python server.
- Extracted centroid contour distance curve of hand poses followed by normalization with FFT for feature-set generation.
- Trained HMMs for Gesture Recognition from gesture videos with 97.23 % accuracy and k-NN for Hand Pose Recognition with 99.7 % accuracy. Results published in a paper indexed by IEEE Xplore.

## PUBLICATIONS / ARTICLES

- “Keystroke Dynamics Analysis and Prediction”, Towards Data Science. [[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

**Database:** MySQL, MongoDB, Oracle SQL, CassandraDB

**Machine Learning:** TensorFlow, Pandas, Keras, Scikit-learn, NLTK, Spacy

**Others:** OpenCV, Numpy, Matplotlib

**Web:** LAMP stack, Angular4, NodeJS, Flask, Kafka

**Tools:** AWS (EC2, RDS, S3, EKS, Comprehend), Git, Firebase, Matlab, Google Colab, Heroku

## EXTRA-CURRICULAR ACTIVITIES / ACHIEVEMENTS

- **Sir Dorabji Tata Trust scholarship** for securing 1<sup>st</sup> Rank in a class of 120 students during undergraduate studies.
- **‘Vice-President - Membership’** of Barclays Pune 2 Toastmasters Club (January 2019 - June 2019).
- Active member of Junior Chambers International Club – contributing to social service activities such as creating seed balls for afforestation in areas devastated by floods and blood donation.
- **Placement Coordinator** during under-graduation, managing logistics for around 40 companies and 800 students.