

Mohith Kulkarni

[GitHub](#), [Website](#)

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EDUCATION

- **Birla Institute of Technology and Science**

Bachelor of Engineering in Computer Science (GPA - 7.41)

Hyderabad, TS

Aug. 2016 - May. 2020

RELEVANT COURSE WORK

- **Theory:** Data Structures and Algorithms, Theory of Computation, Computer Networks, Computer Architecture, Data Base Management Systems, Operating Systems
- **Data Science:** Machine Learning, Information Retrieval, Data Mining

PROGRAMMING SKILLS

- **Languages:** Python, MATLAB, C++
- **Technologies:** Git, Linux, Tableau

PROJECTS

- **Plagiarism Checker:** A Python source code plagiarism checker. Dataset is created by collecting assignment submissions of students and manually identifying similar codes. Extracted features of the code, which are of various types like simple string level features, statistical measures, etc. implemented a **Complement Naive Bayes** classifier as the dataset is highly imbalanced. Planning to extend this to detect plagiarism across multiple files and find better features for this task. (**WORK IN PROGRESS**)
- **Search Engine:** Information Retrieval system that searches lyrics of **262,000+** songs. Each song is represented as a vector of tf-idf scores in the semantic space of the entire vocabulary. In the query time, a similar tf-idf representation of the query is generated, and songs are searched for similarity using the cosine distance similarity.
- **Movie Recommender System:** A comparative study of several recommender system algorithms including **Collaborative Filtering**, **SVD**, **CUR** and **Latent Factor Model**. The general idea is to reduce the dimensions of a very sparse dataset and recommend based on the movie-movie similarities. [\[code\]](#)
- **Statistical Machine Translation:** Translation from English to Spanish is done by implementing the IBM models based on word-based translation and developed a model based on the idea of **phrase-based translation**.
- **Fraud Detection:** Detection of fraudulent transactions using the **Outlier Detection** algorithms, **DBSCAN** (Density-based spatial clustering) and **LOF** (Location Outlier Factor). The mentioned methods calculate the density of points in the surroundings and identify a point/transaction as an outlier/fraudulent when the ratio is very low.
- **Course Registration Portal:** A registration portal made as a part of the Database Management Course. The portal supports functionality for both Administrators and Students with all details of the courses, grades easily accesible through interactive gui. The project can scale upto 10,000 concurrent users. [\[code\]](#)

WORK EXPERIENCE

- **MathWorks** Hyderabad, TS, India.
Associate Support Engineer *Aug 2020 - Present*
 - **Role:** Wireless Communication modelling. Designing and Simulation of EDCA airtime analysis of a network.
- **IMI Mobile** Hyderabad, TS, India.
Data Science Intern *Aug 2019 - Dec 2019*
 - **Role:** Building, Testing and Deploying Machine Learning Model for customer churn prediction, Interactive Data Analytic Dashboards using Tableau.
- **National Textile Corporation** Coimbatore, TN, India.
Summer Intern *May 2018 - July 2018*
 - **IT Department:** Developed a website that helps in improving productivity of billing process.

AWARDS AND DISTINCTIONS

- **Indian National Cyber Olympiad, 2013:** Top 1% (among 100,000+)
- **Indian National Junior Science Olympiad, 2013:** Top 1% (among 100,000+)