ROUNAK SARAF

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EDUCATION

Indraprastha Institute of Information Technology, Delhi   **New Delhi, Delhi, India**
Bachelor's of Technology / Electronics and Communications Engineering   *May, 2022*
- GPA - 8.3, Coursework - Data Structures & Algorithms, Artificial Intelligence, Machine Learning, Computer Networks, Probability & Statistics, Natural Language Processing, Operating Systems, Database Management Systems, Linear Algebra, Engineering Design, Advanced Programming, Competitive Programming

WORK EXPERIENCE

Synopsys, Inc.   **Bengaluru, Karnataka, India**
Data Engineering Intern   *May, 2021 - Present*
- Web : Created a mailing system to provide instructions to the assigned employee of a JIRA issue for obtaining access to the code base using web scraping and web API mechanisms. Integrated a weekly reminder system.
- Data and Distributed Systems : Programmed a congestion analysis feature running on a distributed compute framework using PySpark and Pandas. Designed the feature determining the density and intersection of two specific IC components in the IC design. Used Convex Hull algorithm for the implementation. Improved the algorithm efficiency by 87%.
- Workflow Management : Created a dependency between the congestion analysis feature added and the system using Apache Airflow reflecting the functionality and conditional inclusion of the feature.

PROJECTS

Artificial Intelligence   **New Delhi, Delhi, India**
Undergraduate Researcher   *Aug, 2020 - Dec, 2020*
- Career Advisory System ✦ : Designed a system providing the best career options for a student considering students interests, skills and other relevant attributes provided as input by the user.
- Natural Language Interface ✦ : Created an interactive user interface for the career advisory system using Natural Language Toolkit (nltk ✦).

Natural Language Processing   **New Delhi, Delhi, India**
Undergraduate Researcher   *Aug, 2020 - Dec, 2020*
- Twitter Sentiment Analysis System ✦ : Led a team of 2 for creating a classification system on sentiments of a tweet. Implemented and compared various computational models on 25 features achieving a maximum accuracy of 78%.
- Viterbi Algorithm ✦ : Implemented the Viterbi algorithm for word-tag definition from scratch. Obtained results for the Bigram and the Trigram model with 87.1% and 89.5% accuracy respectively.

General Programming   **New Delhi, Delhi, India**
Undergraduate Researcher   *Aug, 2018 - Dec, 2018*
- Weather Prediction App ✦ : Developed an app which displays the real-time temperature, humidity and other meteorological factors using the weather API. Thoroughly tested the app using python unit-test framework.

Games and Graphics   **New Delhi, Delhi, India**
Undergraduate Researcher   *Aug, 2019 - Dec, 2019*
- Plants Vs. Zombies ✦ : Developed a fully functional Plants vs Zombies game from scratch built on JavaFX.

SKILLS & INTERESTS

Skills: Python, Java, Matlab, Latex, Verilog, Git, HTML, C++, Bash, MySQL, Flask, Rest API, React, CSS, JavaScript, Django, Prolog, C, Spark SQL, PySpark, Pandas, Dask, Scikit-Learn, Scipy, Apache Spark Compute, Linux, WIndows, JavaFX, Eagle CAD, Fusion 360, Eclipse, Cisco Packet Tracer, Googling.

Interests: I am interested in the fields of Software Development, Data Engineering, Quantitative Analysis. Flexible to work in other fields as well. My interests outside of work include Martial Arts, Sports and Music.

Participated and won in India's biggest Sports Fest in Taekwondo. (Gold Medallist).