

Sonali Mittal

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WORK EXPERIENCE

Microsoft

Apr, 2022 – Present

Data & Applied Scientist II

Hyderabad

- **Query Classification Model:** Fine-tuned a TULR model to classify travel queries with **80%** precision and **15%** increase in traffic.
- **Travel Recommendation System:** Designing Recommendation System for Bing Travel. Working on various aspects like data generation, triggering, and quality contributing to **100k** users.

Goldman Sachs

June, 2018 – Apr, 2022

Associate

Bangalore

- Led the development of a tagging process of inbound payments. Developed a **multiclass random forest model** which can reduce manual effort by **50%** and help in reducing funding costs.
- Used **TF-IDF** to extract information from raw text. The accuracy for team tags prediction was **80%**.
- Mentored 2 full time Data Scientists.

Analyst

- **Productionized** a **Catboost** model that predicts the failure probability of securities trades on settlement date with **60%** precision and **58%** recall.
- Inspected **SHAP** Values to generate top reasons for trade failure.
- Used techniques like **SMOTE** to handle imbalanced data, **K-fold target encoding** for categorical features.
- Developed a framework to make ML experiments easy & quick. It provides functionalities like feature selection, model backtesting, hyperparameter-tuning, and a detailed report of the experiment in the end.

PERSONAL PROJECTS

- **Mini-GPT Model:** Trained a mini GPT model on books dataset. [Project Link](#)

EDUCATION

Indian Institute of Technology, Roorkee

2014-2018

Production & Industrial Engineering (*GPA: 8.33/10*)

CERTIFICATIONS, SKILLS & LANGUAGES

- **Certifications:**
 - Black belt certified by Taekwondo Federation of India and Kukkiwon (World Taekwondo Headquarters)
 - Awarded KVPY Fellowship. Given to the top 0.2% of appearing candidates.
- **Skills:** Python, PySpark, Pytorch, JAX, Hadoop, Kafka, Machine Learning, NLP, C#, C++, Data Structures, Algorithms
- **Languages:** English (Proficient), Hindi (Native).

RESEARCH & THESIS

Random Number Generation for Application in Simulation of Discrete Event System

2017-2018

- Uses of Random numbers are reported in various fields related to Modeling and Simulation of Discrete Event Systems. Created a new PRNG and used it for simulation of different manufacturing processes.

ACHIEVEMENTS

- **Taekwondo - State level Gold medalist, Vice Captain:** Represented Haridwar in Open State Poomsae Championship and won 3 Gold medals.
- **Mentor, Student Mentorship Program:** Mentored 3 first-year students to make them aware of all the opportunities in the campus and guided them accordingly in their best interests.