# Nishu Kumari Singh

*Aspiring Data Scientist with extensive hands-on experience in machine learning models, data visualization, and sentiment analysis, seeking to deepen expertise through a Data Science Master's program in the USA.*

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## WORK EXPERIENCE

**Prompt Engineer** — **NVIDIA, Pune, India** — **06/01/2023 – 12/29/2024**

- Generative AI Analyst for the NEMO project, improving model capabilities via prompt engineering.

**Data Analyst** — **Skillslash Academy, Remote** — **04/10/2022 – 04/21/2023**

- Implemented various supervised and unsupervised ML models on proprietary datasets, including K-Means Clustering, Random Forest, XGBoost, and Principal Component Analysis.

**Data Science Intern** — **British Airways, Remote** — **03/01/2023 – 03/31/2023**

- Worked on customer review sentiment analysis for business insights. Used Tableau for data visualization.

**Data Science Intern** — **Caspian, Remote** — **02/02/2023 – 05/02/2023**

- Engineered a machine learning model to evaluate bank customers' credit worthiness, conducted accuracy tests on multiple models, and visualized results using ROC-AUC curves.

## PROJECTS

All projects available on git : `https://github.com/NishuSingh28`

- **Swarm Optimization for Text Classification (cont)**: Designed and benchmarked swarm intelligence algorithms—including PSO, GWO, and hybrid variants—to optimize LSTM models for news categorization. Achieved 89.3% accuracy and demonstrated superior performance over traditional search methods
- **Predictive Churn Model**: Developed a Random Forest model for insurance customer attrition, achieving 82% accuracy with down-sampling. Validated model performance with precision, recall, and ROC- AUC of 0.84.
- **Purchase Intent Analysis**: Used K-Means Clustering to predict user retention based on search time and bounce rate, optimizing with the Elbow Method and achieving a Rand Index of 0.893.
- **Income Classification Model**: Created a Random Forest Classifier to predict user profits based on demographic data, improving accuracy to 85.44% after feature engineering.
- **VADER Sentiment Analysis Tool**: Built a sentiment analyzer using VADER with a custom data pipeline for tokenization, stop word removal, and lemmatization, improving accuracy of sentiment classification.
- **Movie Recommendation System**: Engineered a recommendation engine using cosine similarity and count vectorizer to suggest films based on user preferences.
- **Google Play Store Install Predictor**: Developed an XGBoost model to forecast app installations, achieving an R-squared of 0.91 and significantly reducing prediction error.

## EDUCATION

**MS in Data Science( Bayesian Machine Learning), Arizona State University, Tempe, USA** — **2024 – 2026**
**MS in Mathematics, University Of Hyderabad, Hyderabad, India** — **2016 – 2018**
**BS in Mathematics (Gold Medalist), Pondicherry University, Pondicherry, India** — **2013 – 2016**

## SKILLS AND TECHNOLOGIES

- **Machine Learning**: Random Forest, K-Means Clustering, XGBoost, PCA, Logistic Regression, SVM, Naive Bayes
- **Data Analytics** : SQL, Statistical Probabilities, Linear Algebra, Tableau, Tensorflow , MS Excel
- **Programming** : Python, Pandas, NumPy, Scikit-Learn, Matplotlib, Seaborn

## ACHIEVEMENTS

- Secured All India Rank 809 and 1090 in GATE (2019, 2018).
- Recipient of the Central Sector Scholarship for academic excellence (2013–2018).
- State-level champion in debate, elocution, and essay competitions, with top honors in National Voter's Day, Vigilance Awareness Week, ISMAT, FANS, LAKSHYA Youth, and Clean City Initiative.

## ADDITIONAL EXPERIENCE

**Mathematics Lecturer, JaiKranti Junior Science College, India** — **2018 – 2019**

Taught undergraduate-level mathematics, focusing on calculus, algebra, and statistics.