

## JILL KARIA

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### EDUCATION

**Syracuse University**, School of Information Studies, Syracuse, NY August 2023 - May 2025  
M.S. | Data Science

Relevant Coursework: Applied Machine Learning, Natural Language Processing, Business Analytics, Introduction to Data Science, Quant Reasoning Data Science, Data Admin Concepts and Database Management

**Svkm'S Dwarkadas J. Sanghvi College of Engineering**, Mumbai, India August 2019 - June 2023  
B.Tech | Telecommunication Engineering

Relevant Coursework: Big Data Analysis, Artificial Intelligence and Machine Learning, Data Structures and Algorithm, Database Management System, Neural Network and Fuzzy Logic, Python Programming, Object Oriented Programming, Digital Signal Processing

### EXPERIENCE

**Data Analyst Research Intern**, Center for Computing and Data Science, Syracuse University, NY May 2024 - Present

- Conduct comprehensive analysis of 2024 political data containing 100,000 ads to identify and mitigate spread of misinformation and disinformation. Employed advanced data mining techniques to uncover and map 50 inauthentic networks
- Fine-tuned a BERT-based text classification model to enhance detection of incivility within political discourse, resulting in a 2.5% increase in model accuracy.
- Construct a separate BERT classification model to determine political partisanship of various accounts and pages giving a 91% accuracy
- Leveraged Neo4j graph database technology to investigate and visualize networks of Facebook accounts involved in ad campaigns, identifying fraudulent activities and scam operations. Implemented complex queries and graph algorithms to elucidate relationships and interactions within network

**Research Assistant**, School of Information Studies, Syracuse University, NY January 2024 - May 2024

- Built a belief landscape framework where team worked on studying belief dynamics using 29.3 million tweets from 5.9 million users to enhance understanding of misinformation and social polarization
- Sourced SpaCy to extract belief-like SVO structures, mapped 1,000+ into vector space with Sentence-BERT, and applied UMAP to visualize patterns, discovering 5 attractors and quantifying shifts in belief dynamics.

### TECHNICAL SKILLS

- Programming languages: Python, R, SQL, C, C++, Cypher
- Database Management: NoSQL, MySQL, Graph Database
- Software: Power BI, Tableau, Android Studio, Google Firebase, AWS, Snowflake, Neo4j
- Frameworks - NumPy, Tensorflow, Matplotlib, Pandas, ResNet50, Streamlit, keras, opencv, PIL

### PROJECTS

**International Debt Statistics and Projection** January 2024 - May 2024

- Developed a model using LSTM and XGBoost to predict a country's likelihood of defaulting on external loans, with a mean absolute error of 0.01957
- Analyzed socio-economic and financial data from 170 countries, identifying health and education indicators as key predictors of economic stability and debt repayment

**eSC energy Analysis** September 2023 - December 2023

- Functioned in a group of 6 to construct a model in R predicting peak energy usage of around 5000 houses in 46 counties in both North and South Carolina in July to avoid complete blackouts
- Created a linear model with 91% accuracy by cleaning data files with 400,000 observations, 120 columns and performing exploratory data analysis. Deployed it to a frontend operating Shiny App showing real-time model predictions

**e-Commerce Recommendation System** August 2022 - April 2023

- Collaborated with a team of 4 to devise an e-Commerce recommendation system utilizing features from uploaded images to recommend various fashion pieces
- Gathered a dataset of 44,000 images on python leveraging tensorflow and the CNN architecture ResNet50 to extract features from dataset and operate those features to get recommendations.

### LEADERSHIP

**Head of Electrical Department**, DJ Miles, Mumbai, India March 2021 - June 2022

- Supervised a team of 20 as being head of electrical department for college SAE team DJ Miles. Led design efforts for PCBs of motor controller, telemetry system, and electric vehicle battery pack leveraging Altium giving 20% more efficiency

- Managed to raise 1000 dollars by reaching investors. Achieved a notable 2nd place victory in the Shell Eco Marathon's Future Rider competition, showcasing strong leadership and technical expertise