

Nikhil Iyer

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EDUCATION

The University of Toronto

Sept 2020 – Apr 2025

Honours Bachelor of Applied Science in Applied Statistics, Computer Science, and Mathematics

Relevant Coursework:

- Software Design, Statistics with Applied Probability, Probability and Statistics I and II, Software Tools and System Programming, Machine Learning, Regression Analysis, Discrete Mathematics, Linear Algebra, Theoretical Statistics.

EXPERIENCE

Founder • CEO • Full Stack Developer

Toronto TO

Genda Software Incorporated

Dec 2020 – Present

- Full-stack developer and overseer of business operations at Genda, with a focus on leveraging technologies such as Large Language Models, Transformers, Machine Learning, and Artificial Intelligence to optimize teaching and learning in the post-secondary space. Incorporating these tools into the custom-built Learning Management System (LMS) and conducting ongoing technological research to improve existing models and enhance user experiences are core responsibilities.

Junior Data Scientist

Toronto TO

Guardian Capital Group

Jun 2023 – Aug 2023

- Retrieved thousands U.S. Securities and Exchange Commission filings (10K and 10Q) for various companies to investigate potential correlations between Management Disclosure and Earnings Surprise. Cleaned the data and then utilized NLTK for text tokenization. Employing models and techniques like Bidirectional Encoder Representations from Transformers (BERT) and Large Language Models (LLM), to generate sentence embeddings to feed into a hybrid model. Then fine-tuned BERT to enhance the probability distribution on financial documents. Additionally, developed algorithms and assigned weights to refine the probability distribution. This process culminated in the model providing insights on expected earnings surprise based on the analyzed data.

Data Analyst

Toronto TO

Guardian Capital Group

Mat 2020 – Jul 2020

- Collected and organized large amounts of financial data, mainly focusing on stocks, and conducting thorough time series analysis. Using statistical methods like z-score calculations to decipher trends and patterns in the data. Combined data patterns to come up with a composite rank estimate.

PROJECTS

Machine Learning City Predictor

Data Science, Naïve Bayes, Random Forest, Neural Networks

March 2024

- Conducted comprehensive feature engineering by meticulously analyzing and reworking dataset features to enhance model performance, demonstrating proficiency in data preprocessing techniques for effective predictive modeling
- Utilized a diverse array of machine learning algorithms including regression, random forest, KNN, CNN, and NN models to evaluate predictive accuracy, showcasing versatility and expertise in model selection and evaluation methodologies.
- Spearheaded the development and implementation of a sophisticated Naive Bayes Random Forest architecture, showcasing adeptness in designing and optimizing machine learning architectures for complex prediction tasks.
- Authored comprehensive documentation detailing the methodology, data preprocessing steps, model architectures, and evaluation metrics employed in the city predictor project, facilitating seamless replication and understanding of the project's workflow for future reference and collaboration.

Toronto Public Engagement Analysis

Data Analysis, Feature Engineering, Regression Analysis

January 2024

- Conducted analysis and interpretation of survey data collected by the City of Toronto, focusing on residents' engagement and perception of the city.

- Utilized R programming language, specifically leveraging packages from the tidyverse ecosystem including tibble, dplyr, and ggplot2, as well as additional packages such as viridis, knitr, and KableExtra for data manipulation, visualization, and report generation.
- Explored how people engage with their city and perceive it, contributing to urban sociology and policy discussions.
- Presented findings and insights in a clear and concise manner, contributing to the understanding of urban dynamics and citizen engagement within Toronto.

Bloony and CSBot Discord Bots

December 2023

- Created a Discord bot for Bloons game enthusiasts, enabling tower rolling, collection, and trading functionalities using Python. Integrated SQL database for efficient data management.
- Developed a music bot for League of Legends Discord servers using Python and SQL, allowing it to join voice channels and play random songs to simulate competitive gaming ambiance.
- Leveraged sophisticated libraries like pandas, numpy, and the Discord API. These tools facilitated seamless integration of features, ensuring an enriched experience for users across diverse Discord servers.

ADDITIONAL INFORMATION (Skills)

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| • Python Java C SQL | • Django JavaFX AJAX | • Leader |
| • HTML CSS JS | • Linux UNIX | • Critical Thinker |
| • Pandas NumPy NLTK | • AWS RDS | • Problem Solving |
| • Keras Tensorflow | • Git Hugging Face | • Team Builder / Collaborator |
| • Scikit-learn SciPy | • BERT | • Time Management |
| • SQLAlchemy OpenCV | • API Integration | • Innovation |
| • Requests Beautiful Soup | • Transformers LLM's | • Adaptability |