Stella Abelinde

+1 (647)-228-3343 stellaabelinde@gmail.com www.linkedin.com/in/stella-abelinde https://github.com/Stella1318

Education

University of Toronto **September 2024 - April 2026**
Masters of Arts in Economics | Focus in Machine Learning and Data Science *Toronto,Ontario*

University of Toronto **September 2019 - April 2024**
HBSc Specialist in Economics | Double Minors in Math and Statistics *Toronto,Ontario*

Courses: Object-Oriented Programming (A), Advance Calculus (A+), Linear Algebra, Combinatorial Analysis, Discrete Math, Differential Equations (A), Time Series Econometrics (A+), Applied Econometrics I, Financial Economics (A+), Game Theory, Machine Learning (A), Public Economics (A-), Welfare Economics, Mergers and Competition Policy (A-)
Awards: Honour Specialist **with Distinction**, Financial Grant Recipient (3x))

Experience

Radical AI **June 2024 – Present**
Machine Learning Engineer | Intern *Toronto, Ontario | Remote*

- Develop and deploy AI applications using leading frameworks such as OpenAI Assistant API and Google Gemini; Conduct comprehensive data collection and preprocessing for optimal generative AI model performance including prompt engineering to refine AI model interactions
- **Created an AI-driven assessment tool that generates personalized quizzes from user-provided documents** for an AI teaching assistant agent which offers instant feedback, comprehensive explanations, and adaptive learning to enhance the efficiency and effectiveness of automated learning experience.
- Engineered an interactive chatbot, integrated with Google's Vertex AI, for an e-commerce platform, resulting in **15% point increase in customer retention rate and 50% point increase in return visit**

Sephora **September 2022 – November 2023**
Beauty Advisor *Toronto, Ontario, Canada*

- Applied choice theory to analyze client preferences, delivering tailored product recommendations and achieved 100% customer satisfaction; Achieved highest **Sales per Labor Hour (SPLH) of $643**, far exceeding the average SPLH of $90, through methodical application of economic principles.

Select Research Projects

Semantic Analysis and Feature Engineering for Predicting Patent Approval | | *Python* **March 2024**

- Utilized advanced text analytics and machine learning techniques to predict patent approval based on abstract content.
- Analyzed over 150 metadata and demographic features using exploratory data analysis and summary statistics, identifying no significant correlation with patent application status.
- Implement text vectorization with TF-IDF and Bag of Words; Engineered a novelty detection feature using cosine similarity and LDA to improve model differentiation; Developed and assessed multiple machine learning classifiers, including Logistic Regression (baseline model), KNN, SVM, Random Forest, and XGBoost, which enhance patent prediction accuracy by 5% points.
- **Awarded as best class project for my undergraduate machine learning class, paper and presentation**

Advanced Forecasting Techniques for GDP and Consumption | | *R* **January 2024**

- Developed predictive models to forecast U.S. personal consumption expenditures (PCEC) and gross domestic product (GDP) using time series analysis techniques.
- Retrieved PCEC and GDP data from the Federal Reserve Economic Data (FRED) database.Applied logarithmic transformation and differencing to stabilize variance and ensure stationarity of the time series.

- Developed, trained, evaluated multivariate models such Vector Autogression (VAR), Vector Error Correction (VEC); and Recursive Neural Network models such as LSTAM and GRU on a validation set, demonstrating the LSTAM model's superior accuracy in capturing long-term trends and reducing forecast error using MSE and AIC minimization criterion.

Anomaly Detection for Fraud Detection using Autoencoders | | *Python* **Spetember 2024-Present**

- Currently building a deep learning-based fraud detection system using autoencoders to identify anomalies in financial transaction data.
- Working on detecting fraudulent transaction by analyzing reconstruction error and enhancing accuracy with traditional methods.
- Addressing class imbalance using techniques like SMOTE and undersampling to improve model performance.
- Developing a real-time monitoring system using Apache Kafka to simulate real-world fraud detection scenarios.

Reinforcment Learning for Financial Portfolio Optimization | | *Python* **September 2024-Present**

- Designing a reinforcement learning agent using Proximal Policy Optimization (PPO) for optimizing financial portfolios and managing risks.
- Simulating portfolio performance using historical stock market data to evaluate the model's effectiveness.
- Applying key financial metrics such as the Sharp Ratio and Value at Risk (VaR) to assess risk managment strategies
- Implementing and comparing additional techniques like Deep Q-Network (DQN) to identify the best-performing model.

Skills

Languages: Python, R, Stata, SQL **(HackerRank Certified, Advance)**, MATLAB
Visualization Tools: Tableau, Cognos Analytics, Power BI, Excel
Libraries/Frameworks: Jupyter, Tensor-Flow, PyTorch, MatplotLib, Numpy, Request, GeoPandas, BeautifulSoup, sckit-learn, Dplyr, Shiny, Caret, TidyR, Lubridate and etc..
Database and Search: Chromadb, VectorSearch
Others: Problem Solving **(HackerRank Certified, Int.)**

Certificates

IBM Data Engineering **In Progress**
Professional Certificate | 13-Course Series | 220 hours *Coursera*

IBM Machine Learning & AI Engineering **In Progress**
2 Professional Certificates | 12 -Course Series | 220 hours *Coursera*

IBM Data Analysis & Advance Data Science **In Progress**
2 Professional Certificates, 1 Specialization Certificate | 24-Course Series | 530 hours *Coursera*

Extracurricular and Hobbies

UofT Poker Club | Live and Online Poker Cash Game **Fall 2021 – Fall 2023**
Board Member | Poker Player *University of Toronto | Community and Online*

- Organize and Participate in non-monetary poker game tournaments held twice a month during the school year.
- Leverage my Game Theory and Statistical skills; and integrate that along with my sharp and acute social skills for optimal profit at a **$1-$2 stakes game; playing volume of** $2-3$ **games per month; $12, 000 lifetime profit.**