**TINH CAO**

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GitHub: <https://github.com/tccao>

**Education**

**Illinois Institute of Technology|** Chicago, IL August 2021 – August 2023

* Master of Data Science

**North Central College|** Naperville, IL August 2016 – May 2020

* B.S Actuarial Science; B.S Computer Science; B.S Finance

Coursework: Inference statistics; Introduction to Time Series; Project Management; Monte Carlo Methods in Finance; Design and Analysis of Algorithm; Machine Learning; Big data Technologies; Computational mathematics.

**Experience**

**Cook’s County Treasurer Office |** Chicago, ILMay 2023 – August 2023

**Data Science Practicum Student**

* Spearheaded an artificial intelligence and machine learning initiative to transform property tax predictions, drafting the full project proposal and timeline for the innovation.
* Led a high-performing team of 5 IIT’s students, managing outcomes through rigorous project management. Conducted weekly presentations to drive quality assurance and stakeholders updated.
* Reconciled conflicts between model outcomes and target goals through analytical troubleshooting. Conducted thorough test to ensure model dependency on client’s end.
* Implemented a random forest model that yielded a 0.81 accuracy score and 0.71 precision, generating quantifiable business impact. The combined predictive models are estimated to save 40% in annual administrative costs.
* Acted as the central liaison between technical and leadership teams to accelerate execution. Clearly translated data science insights into executable solutions for stakeholders.

**Sun Life VN |** Ho Chi Minh city, Vietnam October 2020 – July 2021

**Valuation Intern**

* Support systematic, ad-hoc, and financial needs for internal reports by streamlining and implementing data processing methods in Python and SQL.
* Collaborated and initiated improvement on existing policies to reduce computing load on report generating.
* Coordinated with Strategy, Product, and Marketing team to assess the effectiveness of new launch product for internal and external stakeholders.

**Projects**

* **Italian Oil Price Predictio**n **Using Time Series Model**: Executed a comprehensive data analysis project focused on forecasting Italian oil prices using a SARIMA model in R and Python. Leveraged ACF and PACF analyses to detect underlying trends and seasonality, yielding results with a MAPE of 10.68% and an RMSE score of 86.09.
* **Analyzing Spotify Hit**: Led initial data exploration and initial analysis. The result was narrowed and visualized with 5 variables since it yielded highest accuracy score 71.5% among all models used (PCA; Basic Decision Tree; Random Forest).
* **Review Classification Model using Gated Recurrent Unit:** The project focused on classifying the review of the application based on a 1 to 5 by examining the semantic layer of the word corpus. The model achieved 76.6% accuracy.
* **Stock Portfolio Optimization S&P600/XLK in R:** Maximized investment portfolio’s revenue and ROI by strategically distributing marketing budget across the most promising channels using log-return and CAPM criteria (Annualized alpha).

**Skills | Additional Info**

* Programming Languages: Python, MySQL, R.
* Other tools/ Libraries: Tableau, Jupyter Notebook, MATHLAB, Microsoft Office(Word,Excel,Powerpoint).
* North Central College: Co-founded student managed investment fund with a successful $10,000 fund raising; President of Asian Konnection Club to promote culture and diversity on campus.