Chen Chen

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EDUCATION

MS in Data Science, New York University, New York, USA, **GPA 3.9/4.0** *Sep 2022 - May 2024*

Relevant Coursework

- ML for Causal Inference
- Probability and Statistics
- Linear Algebra and Optimization
- Causal Inference
- Visualization for Machine Learning
- Big Data

BBA in Finance and International Business, George Washington University, *Summa Cum Laude*, **GPA 3.9/4.0** *Sep 2015 - May 2019*

PROJECTS

Predicting Kidney Functions Post Renal Mass Removal *Sep 2023 - Dec 2023*

- Developing a **machine learning** model in Python to predict postoperative renal function and renal failure risk, aiding surgeons in nephrectomy decisions by mining **electronic health records** via SQL

SQL Analysis on Synthetic Medical Data *Jun 2023 - Aug 2023*

- Examined **trends** of prevalent diagnoses, medications, and vaccines, as well as **distribution** of patient demographics and biological characteristics with relational databases

Sentiment Analysis on SEC 10-K Reports *Jun 2023- Aug 2023*

- Employed **NLP techniques (text extraction, tokenization**, etc.) in **Python** to analyze 10-K reports of 5 pharmaceutical companies, deriving **data-driven insights** into **stock price movements** based on sentiment word frequencies and Management's Discussions

WORK EXPERIENCE

New York University Langone Health *Sep 2023 – Present*

Research Assistant for Dr. Madhur Nayan

- Develop a machine learning model in Python to predict postoperative renal function and support surgical decision-making for nephrectomies, utilizing preoperative lab values, patient vitals, tumor characteristics, and existing comorbidities
- Construct SQL queries to extract patient data from diverse sources, refined patient cohorts through data munging of EHR records based on exclusion criteria, and employed dynamic rule-based classification with random sampling for surgical procedure validation
- Accelerate manual nephrectomy classifications by employing prompt engineering with Llama 2 API alongside hyperparameter tuning (batch size, learning rate, etc) and early stopping for optimal balance between accuracy and computational efficiency

New York University, New York *Sep 2023 – Present*

Research and Teaching Assistant for Professor Jennifer Hill

- Conducted weekly **recitation on causal inference course** to provide deep-dive on homework solutions (STATA code) and guidelines for assignments and projects; this includes providing guidance on optimal study techniques for knowledge retention
- Draft and publish an article on a study assessing thinkCausal, an educational tool for causal inference powered by Bayesian Additive Regression Tree, comparing its user-friendliness and estimation properties through case studies against R and STATA
- Engage in weekly team meetings to capture innovations on ThinkCausal for inclusion in the published article

UBS Securities LLC, New York *Jun 2023– Aug 2023*

Quantitative Trading Summer Analyst

- Performed Twitter sentiment analysis for ten S&P 500 companies to support prediction of one-year forward fair values using **Bag-of-Words and TF-IDF**, constructing a simulated $1 million portfolio that yielded a $42,000 gain
- Designed custom investment strategy, overlaying exotic options on tradable indexes for **volatility targets**; conducted 10-year **backtest**ing to assess **risk-return metrics** and facilitate productive client discussions

Strategic Investment Group, Washington, D.C. *Jun 2019 - Mar 2022*

Senior Analyst, Investment Management

- **Managed quality-control** for client reporting, **supervised valuation** of over **200 investments** across **four asset classes** with **SQL**
- Produced **visual analytics** with **Tableau** to compare client's **performance and asset allocation** in 4 investment management universes, informing strategic investment allocation adjustments that yielded **an average 0.4% increase in 1-year returns**
- Facilitated **investment due diligence** by preparing **cash flow models** on portfolio companies of 20+ private equity managers

SKILLS

- **Languages –** Python, R, SQL, HTML
- **ML libraries -** scikit-learn, Pandas & numpy
- **Tools -** Excel VBA, Tableau
- **Modeling -** Regression (**GLM**), Classification (**Tree-based)**
- **Unsupervised Algorithms - PCA, Clustering**
- **Big Data -** Pyspark, Dask, Latent-Factor