PATRICK LEE

SR. DATA SCIENTIST

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Skills

LANGUAGES / LIBRARIES

SQL
Python
PySpark
Pandas
NLTK
NumPy
RegEx
BeautifulSoup
Scikit-learn

MACHINE LEARNING

Gradient Boosting
Random Forests
Natural Language Processing
Linear Regression
Logistic Regression

VISUALIZATIONS

Matplotlib
Seaborn
Tableau
Power BI

DATA MANAGEMENT

Git / Github
Databricks
Snowflake
SQL Server Management Studio
AWS
Excel

Actuarial Exams

Exam P/1 - Probability

Exam FM/2 - Financial Mathematics

Exam MFE/3 - Models for Financial Economics

Experience

CVS Health — New York, NY
Senior Data Scientist — Jan. 2023 to Current
- Designed a time series forecasting model to predict digital prescription sales. Delivered insights to guide digital adoption strategies for end-of-year goals
- Applied propensity score matching to evaluate the impact of digital adoption on engagement, in-store performance metrics, call volume, and customer satisfaction
- Developed classification model for patients with upcoming prescriptions to optimize outreach timing and relevance. Boosted conversion by 54% while targeting higher-value patients with 30% more scripts
- Conducted snap test experiments on various outreach verbiages, analyzing conversion, opt-out, and uncontained call rates
- Leveraged LightGBM Regressor to estimate prescription pick-up times to be displayed in the digital app, reducing late scripts from 20% to 5%

Affinity Health Plan / Molina Healthcare — New York, NY
Data Scientist / Data Analyst — May 2019 to Dec. 2022
- Coordinated with payment integrity team to design a GBM model to identify fraud and capture overpayment to providers. Provided total recovery opportunity of $1.4M in first 6 months of deployment
- Reverse engineered model to calculate risk adjusted loss ratios and identify profitable contracts. Built ETL pipeline in SQL to replace dependency on external actuarial consulting firm and save $100,000+ YoY
- Provide ad hoc data analysis and automated dashboard tools in Power BI and Tableau

Metis (Kaplan, Inc.) — New York, NY
Data Science Teaching Assistant and Fellow — Jan. 2019 to Apr. 2019
- Guided students in the machine learning pipeline of their unique project datasets, including data acquisition, EDA, data cleaning, and statistical modeling using Python and SQL programming
- Designed a comprehensive data science course plan around statistics and probability

The Hartford Financial Services Group, Inc. — Hartford, CT
Senior Actuarial Analyst — May 2016 to Dec. 2018
- Applied actuarial experience analysis to provide efficient risk adjusted pricing and bring profitability to 12 states
- Analyzed loss data and identified key trends to improve market segmentation
- Presented actuarial analysis to the Department of Insurance to approve 20+ rate changes designed towards profitable growth

Personal Projects

NBA All-Star Votes Predictor
Efficiently scraped and wrangled 20+ years of NBA data (using BeautifulSoup and pandas) and applied linear regression to determine how player's stats can predict All-Star vote counts

E-commerce Product Repurchasing Classifier
Feature engineering product/member data for Instacart, I applied random forest and XGBoost algorithms to classify whether a customer will repurchase a given product

"The Office" Character Relationship Episode Recommender
Built a recommendation system app using character lines from *The Office* to find episodes based on any two-pair character relationship using NLP and cosine similarity

Codenames AI Bot (The Perfect Partner)
Leveraged Gensim's Word2Vec to train a neural net bot that can play *Codenames* with human partners using word embeddings from their personal Facebook Messenger data

Education

New York University — Sep. 2009 to May 2013
B.A. Major: Economics, Minor: Business Studies