

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 Senior Data Scientist

New York, NY
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 holding 30% more scripts
- Conducted snap test experiments using control and test groups to rank the effectiveness of various outreach verbiages
- 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 Data Scientist / Data Analyst

New York, NY
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.) Data Science Teaching Assistant and Fellow

New York, NY
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. Senior Actuarial Analyst

Hartford, CT
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 tree-based 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
B.A. Major: Economics, Minor: Business Studies

Sep. 2009 to May 2013