

PATRICK LEE

DATA SCIENTIST

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Actuarial Exams

Exam P/1 - Probability

Exam FM/2 - Financial
Mathematics

Exam MFE/3 - Models for
Financial Economics

Skills

LANGUAGES / LIBRARIES

Python
SQL
NLTK
spaCy
Scikit-learn
Pandas
NumPy
RegEx
BeautifulSoup

MACHINE LEARNING

Gradient Boosting
Random Forests
Natural Language
Processing
Linear Regression
Logistic Regression
Unsupervised Learning
Dimensionality Reduction

VISUALIZATIONS

matplotlib
seaborn
Tableau

DATA MANAGEMENT

Amazon Web Services
Git / Github
MongoDB
SAS
Excel
Access
Ratabase
3M/Treo

Experience

Affinity Health Plan
Data Scientist

New York, NY
May 2019 to Current

- Reverse engineered model previously provided by external actuarial firm. Created streamlined process w/ SQL and Excel to calculate risk-adjusted loss ratios and reveal new profitable contracts
- Manipulate data to identify fraud and capture overpayment to providers. Provided total recovery opportunity of \$1.4M+
- Perform financial impact/scenario analyses for CEO & CFO in fast-paced environment of back and forth settlement negotiations with our largest contract
- Utilize preprocessing and SQL to reconcile hospitals' accounts receivables. Creatively conquer messy data and obtain high-accuracy matches between disparate internal/external sources

Metis (Kaplan, Inc.)
Data Science Teaching Assistant and Fellow

New York, NY
Jan. 2019 to Apr. 2019

- Full-time ACCET-accredited immersive data science bootcamp. Five full-cycle projects from inception to execution, including data acquisition to analysis using machine learning in Python

The Hartford Financial Services Group, Inc.
Senior Actuarial Analyst / Actuarial Analyst

Hartford, CT
May 2016 to Dec. 2018

- Performed statistical & actuarial experience analysis on 12 states to determine adequate rate
- Analyzed loss data and identified trends to provide risk based pricing for given individual
- Used databases in SAS and Access to prepare actuarial portions of financial statements for state insurance department filings and internal management reports
- Strategically presented proposals to the Department of Insurance and AARP. Provided clarification and solutions to their comments/objections (20+ filings approved)

Korean American Medical Association
Executive Director of KAMA

Englewood Cliffs, NJ
Jan. 2015 to Mar. 2016

- Managed largest non-profit national organization representing Korean American physicians
- Coordinated 2015 Scientific Convention held in Seoul, Korea (63 speakers, up to 160 participants per session). Attendees included US Ambassador to Korea and the President of AMA
- Led a team of 31 medical students to streamline operations during the 5-day conference

Animated Storyboards
Operations Analyst

New York, NY
June 2013 to July 2014

- Formatted and launched a series of Excel spreadsheets for the executive team that easily calculates previously unknown KPIs such as growth metrics and individual productivity
- Effectively communicated with 8 studios worldwide to reallocate labor and meet 10+ deadlines a day. Delegated editing tasks to 200+ in-house animators to produce ads for the Super Bowl

Data Science Projects

NBA All-Star Votes Predictor

Selectively 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 data from a major online grocery retail player, utilized random forest and XGBoost algorithm to classify whether or not a customer will repurchase a given product

"The Office" Character Relationship Episode Recommender

Built a recommendation system app using character lines from the most popular show on Netflix 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

Sept. 2009 to May 2013