

PATRICK LEE

DATA SCIENTIST

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Skills

LANGUAGES / LIBRARIES

SQL
Python
NLTK
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

Actuarial Exams

Exam P/1 - Probability
Exam FM/2 - Financial Mathematics
Exam MFE/3 - Models for Financial Economics

Experience

Molina Healthcare / Affinity Health Plan
Data Scientist / Data Analyst

New York, NY
May 2019 to Current

- Created tree-based classification models for our quality team and payment integrity team. Utilize for outreach programs to identify patients at risk for hospital readmissions as well as a classifier to identify fraud and capture overpayment to providers. Provided total recovery opportunity of \$1.4M+
- Reverse engineered model and created valuable process to replace dependency on external actuarial consulting firm. Streamlined process w/ SQL to calculate risk-adjusted loss ratios and reveal new profitable contracts. Trained direct report to assume ownership of processes
- Performed financial impact/scenario analyses directly for CEO & CFO in fast-paced environment of back and forth settlement negotiations with our largest contract

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

New York, NY
Jan. 2019 to Apr. 2019

- Completed five full-cycle projects from inception to execution, including data acquisition to analysis using machine learning in Python (see projects below)
- Selected by school to become a TA for the next cohort. Provided programming assistance, guidance for DS projects, and explanation of machine learning concepts to new students

The Hartford Financial Services Group, Inc.
Senior Actuarial Analyst

Hartford, CT
May 2016 to Dec. 2018

- Performed statistical/actuarial experience analysis on 12 states to verify 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
- Presented proposals to the Department of Insurance and AARP (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 (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
Jun. 2013 to Jul. 2014

- Used data analysis to uncover KPIs such as growth metrics and individual productivity
- Proactively engineered workbook to monitor 8 studios worldwide to reallocate labor and delegate tasks to 200+ animators and keep track of 10+ deadlines a day

Data Science 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 a major online grocery retail player, utilized random forest and XGBoost 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