ELLIOTT EVANS

Data Scientist | Machine Learning Engineer

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PROFILE

- Principal data scientist with expertise in developing modeling pipelines leveraging Keras, PySpark, TensorFlow, and scikit-learn
- 5+ years in industry applying machine learning to problems in finance, politics, education, and whatever challenge comes next

EXPERIENCE

Capital One — Credit Card Fraud Data Science Team

Principal Data Scientist

August 2021 – Present | Chicago, IL

- Development and experimental work on card transaction fraud models
- Implemented tailored resourcing of kubernetes pods to halve ETL runtime
- Developed proof of concept for denoising autoencoder to simulate card data
- Experimental work on applications of time series clustering to identify high spend-velocity fraud attacks
- Developing kubeflow pipeline to run primary transaction fraud model

Civis Analytics — Political Applied Data Science Team

Staff Data Scientist

December 2020 - May 2021 | Chicago, IL

- Implemented and deployed multioutput, **multi-layer perceptron** with **Monte Carlo dropout** for issue modeling
  - Utilized `tf.keras` subclass API with custom loss function to incorporate missing values and class weighting
  - Improved accuracy and ROC AUC relative to legacy model
- Created modeling pipeline to run parallel **TensorFlow estimators** for chamber level resource allocation
- Managed one direct report, active on the political management team
- Collaborated with state-leg. team in DC and R&D team in NYC

Civis Analytics — Political Applied Data Science Team

Senior Data Scientist

July 2018 - December 2020 | Chicago, IL

- Made TF model to output person-matching scores for identity resolution
- Used Keras API to iterate on variational inference public opinion models
- Developed custom sklearn estimator for iterative imputation
- Optimized Bayesian election forecasting model in Stan for accuracy/speed

US Census Bureau — Education, Demographic, Geographic Estimates Branch

Survey Statistician Intern

June 2017 – August 2017 | Suitland, MD

- Analyzed Bayesian kriging on income-to-poverty ratios for public schools
- Found disclosure issues in spatially interpolated demographic estimates

OptionsHouse — Business Intelligence Team

Junior Business Intelligence Analyst

June 2015 – July 2016 | Chicago, MD

- Created C5.0 decision tree model to forecast future user value
- Provided analysis on user trading behavior and customer segmentation
- Queried MySQL and PostgreSQL databases on millions of data points

EDUCATION

University of Michigan

MS, Applied Statistics

Sep 2016 – Apr 2018 | Ann Arbor, MI

- GPA: 4.0/4.0
- Outstanding First Year Masters Student Award
- Teaching Assistant, Introduction to Statistics
  - 3 labs (90 - 120 students total) per semester
  - TA Mentor responsible for onboarding new TAs

Northwestern University

BA, Statistics
BA, Mathematics
Minor, Computer Science

Sep 2011 – June 2015 | Evanston, IL

- Major GPA (Statistics): 3.9/4.0
- *Honors Mathematics Program Participant*

FAVORITE TOOLS

Used Recently:

Python | Keras | TensorFlow | PySpark | SQL | git | Docker | Kubeflow | Snowflake | S3 | Databricks | YAML | Jupyter | TensorBoard | Argo | scikit-learn

Used, but Less Recently:

R | Stan | GCP | Amazon Redshift Spectrum | Tableau

FAVORITE PROJECTS

University of Michigan:

- Identified spatial patterns in high school graduation rates w/ Bayesian hierarchical spatial models
- Estimated probability of heart disease using Bayesian logit model in Stan

Northwestern University:

- Analyzed socio-economic achievement gaps in mathematics testing via longitudinal modeling
- Measured value of pitch-framing in MLB using run expectancy matrices and Pythagorean expectation

Personal:

- Presidential election 2016 forecasts using public poll scraping and nearest-neighbor algorithms