

EXPERIENCE

Square

Senior Machine Learning Engineer – Cash App

New York, NY

Jan 2021 – Present

- Building, training, and deploying machine learning systems for banking risk

BuzzFeed

Staff Data Scientist – Content Ranking and Personalization

New York, NY

May 2018 – Jan 2021

- Led a team of two engineers, two data scientists in developing a Contextual Bandit (LinUCB) recommender system for the BuzzFeed app, improving user retention and driving XX% growth in home-feed CTR
- Built simulation-based, GPU-accelerated ML algorithm training pipeline using Airflow, ML Engine, BigQuery, and Google Cloud Storage, used for training and evaluation of both production and offline recommendation algorithms
- Built the Ads team's data infrastructure using SQL, creating processed logs, aggregate tables, and reporting tools
- Managed and coached data scientists and engineers to achieve milestones in their career and technical growth
- Other highlights: difference-in-difference models to evaluate pricing experiments, causal analyses of drivers of user retention, revenue prediction algorithms, built our suite of AB testing tools, defined quarterly ML product roadmaps

Major League Baseball (MLB)

Data Scientist Intern – Advanced Media

New York, NY

June – August 2017

- Fit and evaluated lead scoring logistic regression models using sales and media data, improving sales velocity by XX%
- Trained churn prediction model for MLB.TV streaming product, achieving XX% increase in AUC score using an ensemble of gradient boosted trees, a random forest, and LASSO logistic regression trained in Python
- Modeled umpire, player, and stadium effects on strike zone shifts using mixed effects logistic regression models in R

Google

Technical Solutions Consultant – AdX, Exchange Bidding

Mountain View, CA

June 2016 (Intern) – May 2018 (Full-Time)

- Analyzed realtime bidding application performance, resolving 231 cases with DSPs and exchange partners
- Built reporting tools using Python and SQL, providing data access to a team of 40 limited-access vendors

PUBLICATIONS

- **Hartshorne, Joshua, Lauren Skorb, Sven Dietz [and 17 others including James LeDoux]** “The Meta-Science of Adult Statistical Word Segmentation: Part 1”. *Collabra: Psychology* 5(1):1, 2019.
- **LeDoux, James, and Christopher Maxwell.** “Crime Generators, Deterrents, and Attractors in Micro-Places”. BA, 2017. <http://hdl.handle.net/2345/bc-ir:107437>.

SKILLS

- **Languages:** Python, R, SQL, Java, STATA, SAS
- **ML Tools:** Scikit-Learn, Keras, TensorFlow, XGBoost, Pandas, NumPy/CuPy, Tidyverse, BigQuery, Airflow, general experience with cloud computing tools (AWS and GCP's solutions for compute, storage, serverless functions)
- **Methods:** Modern and classical approaches to supervised and unsupervised learning, deep learning, econometrics, forecasting, significance testing, experiment design, multi-armed (contextual) bandits, embeddings

EDUCATION

Boston College

BA in Economics; Concentrations in Statistics and Computer Science; Magna Cum Laude

Chestnut Hill, MA

- **Awards:** Giffuni Prize for Best Thesis in Economics, Cheney Economics Scholarship, Dean's Scholarship

MISC.

- I built and maintain pybaseball, a popular Python package for baseball data acquisition and analysis (27k installs to date). I write a weekly newsletter called Baseball IQ, featuring baseball research and analysis using baseball physics data