Raymond Buhr

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Professional Experience

PayPal, Senior Data Scientist, *December 2018 - present*

- Machine learning expert within the Braintree organization and focused on incorporating predictive modeling into our enterprise products.
- Contributed to solutions in fraud detection, anomaly detection, customer churn prevention, financial forecasting, and card authorization optimization.
- Deployed machine learning models to production environments using AWS Sagemaker and EMR, programming frameworks like Python scikit-learn and FastAPI, and application development tools Kubernetes and Airflow.
- A/B tested multiple algorithms against each other, helping the team iteratively improve the quality and success of our ML solutions.
- Partnered with product engineering team to build a OCR and NLP pipeline to automatically categorize chargeback dispute evidence uploaded by merchants to our platform.
- Developed a logistic regression model to predict probability of winning a chargeback dispute based on evidence submitted, used to provide recommendations and help merchants improve both dispute response rate and win rate saving them $10K-$1.5M USD per year in chargeback losses.
- Led project to predict merchants most likely to churn, focusing on explainability and reliability. Helped Customer Success team intervene and save multiple large enterprise clients (>$10M USD transaction volume).
- Built custom time-series forecasts for each merchant in the Australia region in order to support the Finance team with keeping adequate reserves with National Australia Bank. These forecasts allowed our unique product offering so customers could have the best banking and payment processing available in that region.

Pangea Money Transfer, Manager of Data Science, *March 2018 - December 2018*

- Initiated and led effort to build a modern data stack. Inherited a MySQL replica with Tableau on top and replaced with data replication from all RDBMS into AWS S3 using AWS DMS + AWS Lambda, data replication from vendors to S3 using StitchData, data warehouse with Snowflake, and data models built with dbt. Kept Tableau as BI tool after doing 2 month discovery and trial with key stakeholders across the company with 5 alternative options.
- Developed web scrapers to record high frequency snapshots of competitor pricing used to remodel our pricing strategy and gain market share.
- Partnered with the Marketing team to develop customer segmentation model, then followed up with research on the causal effects of discounts and promotions on those segments leading to revising our promotion tactics.
- Performed analysis and investigation into customer referral networks leading to revising referral policies and pairing with product engineering to implement new rules to block fraud.
- Designed a framework for A/B testing for both product and marketing initiatives that could be easily consumed within our CRM, as well as from the data warehouse and BI tool.
- Leveraged work from above projects to integrate dynamic data feeds into our CRM platform for more personalized messaging and offers.

Raise Marketplace, Senior Data Scientist, *Aug 2015 - March 2018*

- Used statistics to describe and explain trends and distributions in marketplace behavior to business stakeholders.
- Modeled dynamic marketplace relationships impacting risk and finance using machine learning techniques.
- Optimized and expanded data warehouse models using theory from Kimball and other sources.
- Built data pipelines from multiple production relational databases and external vendors to support data science and analytics initiatives.
- Revamped lead scoring method for the sales team resulting in 50% reduction in unsuccessful phone calls and increased time in the day for new lead generation. Enhanced data from CRM and RDBMS with data from US Census Bureau and other demographics vendors, then trained a Random Forest classifier to segment leads on the seller side by probability to convert.
- Used association rules and apriori algorithms to cluster gift card brands together by which other brands their customers also purchased. Automated data pipeline and dashboard of results for marketing team, which enabled on demand email campaigns and increased conversion rate 5-10x by brand over previous strategy obtained from external consultants.

Nan McKay & Associates, Management Analyst Supervisor, *Jan 2011 - Jul 2015*

- Nan McKay & Associates (NMA) provides training, consulting, and program management services to public housing authorities across the nation.
- Started as a Management Analyst and was promoted to Senior Management Analyst, then promoted again given a team of 5 analysts to lead.
- Audited financial reporting, implemented IT solutions for clients, and automated operational reporting.
- Provided training both internally and externally on topics ranging from federal financial regulations to data analysis to SQL and database management.

Education

University of California, Berkeley
Master of Information and Data Science, *Sep 2014 - May 2016*

Occidental College
Bachelor of Arts in Economics, *Aug 2005 - May 2009*

Skills and Competencies

- Passionate about creating reproducible research through code and infrastructure, and developing advanced analytical solutions using modern cloud technologies with experience with AWS and GCP.
- Enthusiastic about machine learning software lifecycle and iterative improvement of data products in production environments using frameworks like Microsoft Team Data Science Process, LeanML, CRISP-DM, and MLOps.
- Extensive experience using traditional SQL (RDBMS), NoSQL, and modern cloud data warehouse technologies like Redshift, BigQuery, Spark, Hive, Drill, and Presto.
- Proficient programmer in Python and R, with some professional experience in JavaScript, Scala, Ruby, and Go.
- Trained and interested in coaching and mentoring junior teammates with previous experience in professional settings and through the Chicago Python user group.