Matthew **McAnear**

SENIOR DATA SCIENTIST

Ann Arbor, MI

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Professional Experience

Senior Data Scientist
San Diego, CA

POINT PREDICTIVE
2021 - Present

- Fit statistical models for predicting early loan default and chargeoff for auto lenders
- Load customer data into multiple database environments
- Implemented DynamoDB-backed solution for simple database lookups to improve AWS Lambda cold start times
- Write performant SQL for real-time and aggregate historical borrower statistics

Senior Machine Learning Engineer
Reno, NV

CLEAR CAPITAL
2020-2021

- Served as principal maintainer for Clear Capital's AVM, a system that produces 150 million new predictions and 150GB of new data each week.
- Implemented a model-based error prediction procedure to create value ranges around AVM estimates.
- Provide developer support and manage AWS infrastructure for the machine learning team.
- Implemented reporting dashboards Amazon Quicksight dashboards for model analysis and validation.
- Designed and administer Redshift-based data warehouse to power machine learning models, ETL workflows, and ad-hoc analytical queries.

Data Scientist II
Reno, NV

CLEAR CAPITAL
2017-2019

- Led team of five to streamline original AVM model, reducing build time by over 90% and costs by $4,000 per month.
- Improved AVM performance from last place to industry leader in 6 months (based on absolute mean prediction error).
- Created lightweight web interfaces in R and Shiny for team usage in model validation and exploration.
- Designed and deployed an S3 and DynamoDB backed application for photo cataloguing that manages 35+ terabytes of photos.

Data Scientist I
Reno, NV

CLEAR CAPITAL
2015-2017

- Built an automated valuation model (AVM) on commodity hardware to predict home prices using R and PostgreSQL
- Implemented multi-model aggregation system for final prediction of house values on a monthly refresh cycle.
- Profiled and optimized R, Python, and SQL code for efficiency
- Built basic webservices in Python, Flask, and AWS Lambda for serving AVM model predictions and internal company data through GET requests.

Data Scientist
Philadelphia, PA

SEER INTERACTIVE
2014-2015

- Designed and carried out web-based experiment on domain recognition using multivariate hierarchical regression.
- Wrote web-crawlers and multithreaded programs in Python and R for ETL jobs.
- Automated repetitive reporting processes in R, Python, and Bash
- Supported analytics account managers and external clients through project planning, KPI identification, and Google Analytics implementation

Tools

LANGUAGES
- R, Python, PostgreSQL, bash, RMarkdown

TECHNOLOGIES
- AWS, DynamoDB, Redshift, Linux

PACKAGES
- scikit-learn, PyMC3, numpyro, pandas, numpy, data.table, ggplot2, pyspark

Education

University of Michigan
Ann Arbor, MI

M.S., APPLIED STATISTICS
2022-Expected 2026

University of Pennsylvania
Philadelphia, PA

M.S, NONPROFIT/NGO LEADERSHIP
2013-2014

Bucknell University
Lewisburg, PA

B.A., MATHEMATICS & ECONOMICS, MAGNA CUM LAUDE
2009-2013