ZHAOYUN MA

(412) 596-3997 • mazhaoyuncoco@gmail.com • LinkedIn • GitHub

PROFESSIONAL EXPERIENCE

American Credit Acceptance, *Spartanburg, SC*
Sr Strategy Analyst 04-2021 – present

- Perform predictive analysis constantly to identify opportunities and strategies, monitor customer behavior and strategy performance to react fast to market and unexpected results
  e.g., identified segments of customers to seek more return through optimization and simulation reacting to vehicle value increase due to chip shortage, POS impact with 60 bps increase of ROA
- Design and run experiments accordingly to test different strategies to align with business purpose, increasing revenue/profit, driving customer behavior, or reducing sales labor
  e.g., Tested cutting discount for deals with high vehicle value to boost volume, 15% conversion increase in the testing group.
- Communicate strategies and ideas with executives through compelling data stories
  e.g., designed interactive dashboards to illustrate the impact of different ROA hurdle strategies, one can easily pick the strategy based on business needs
- Improve production code efficiency by reducing redundancy, increasing transparency, and modularizing the workflow
  e.g., refactored pricing model term package to remove unused legacy logics and align with new scoring models

University of South Carolina, *Columbia, SC*
Research Associate 01/2021 – 03/2021

- Developed a filter-based network imaging algorithm to extract material thickness features and achieved 3 μm accuracy, the results helped landing a research funding from DOE

Research Assistant 01/2017 – 12/2020

- Automated wavefield data collection by developing a noncontact laser inspection system [Conference Paper]
- Invented a filter-based network imaging algorithm in MATLAB for complex damage profiling [US patent], [Journal Paper]

General Skills: Data Visualization, Statistical Analysis, Predictive Analytics, Machine Learning, Deep Learning, Data/Signal Processing, Image Processing, Cloud Computing

EDUCATION

Ph.D. in Mechanical Engineering, *Columbia, SC* 2017 – 2020
University of South Carolina, Overall GPA: 4.0/4.0

Master of Science in Civil Engineering, *Pittsburgh, PA* 2015 – 2016
University of Pittsburgh. Overall GPA: 3.9 /4.0

PROJECTS

Sentiment Analysis Web App Deployment (NLP, RNN) [GitHub]

- Deployed an LSTM RNN model using PyTorch with test accuracy of 87% to a Web App though Amazon S3 and SageMaker
- Extracted features using text preprocessing and Bag of Words, and trained the LSTM model with hidden dimension as 200

Dog Breed Classifier (Computer vision, CNN) [GitHub]

- Trained and deployed a dog breed classifier using transfer learning with test accuracy 87% through Amazon EC2
- Implemented a human face detector using OpenCV and a dog face detector using VGG16

Customer Segmentation Report [GitHub] [Medium]

- Preprocessed/structured the raw data and Identified core customer segments using PCA and K-Means
- Predicted customer conversion probability with 0.8 AUROC score using XGBoost and improved the model using Bayesian Optimization and GridSearchCV

Boston Airbnb Listing Price Estimator [Kaggle] [Medium]

- Trained data using different models (linear/ridge regression, neural network) to predict the listing price with 73% accuracy
- Created a heatmap that shows top 15 numerical and categorical features that have highest influence on the price

TECHNICAL SKILLS

Programming: Python, R, SQL, Spark, MATLAB
Modules & Libraries: Pandas, Numpy, Matplotlib, Scipy, NLTK, sklearn, PyTorch, TensorFlow, Keras, ggplot, dplyr, tidyverse
ML/AI, Deep Learning: Predictive Modeling, Linear Models, Boosted Tree Models, Machine Learning Pipeline, Model Deployment, Recommender Systems, Convolutional Neural Network, Recurrent Neural Network, Generative Adversarial Network, Computer Vision, Natural Language Processing
Other Software/Tools: Tableau, AWS web services (SageMaker, S3, EC2)

CERTIFICATIONS

Certifications: *Data Scientist Nanodegree* (Udacity, 2020), *Machine Learning Engineer Nanodegree* (Udacity, 2021), *Deep Learning Nanodegree* (Udacity, 2021)
Social Impact: Organized/lead a data analytics/science learning series in current role
Developed a training program for programming, data processing and device operation during PhD
Mentor for three summer sessions of high school student research program