

# MASON ELLARD

## DATA SCIENTIST

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## Skills

### PROGRAMMING LANGUAGES

C  
Python  
R  
SQL  
HTML  
Bash (Linux)

### SOFTWARE PACKAGES

Numpy  
Pandas  
Matplotlib  
Seaborn  
Sci-Kit Learn  
XGBoost  
Statsmodels  
Itertools  
Pickle  
Regex  
Gensim  
Streamlit  
Flask  
D3  
BeautifulSoup  
Selenium  
corextopic  
PostgreSQL  
Google Cloud Platform  
Keras  
Tensorflow

### MODELING / ALGORITHMS

Linear Regression  
Logistic Regression  
K-Nearest Neighbors  
Naive Bayes  
Decision Trees  
Lasso  
Ridge  
Ensembling  
Random Forest  
XGBoost  
LSA/SVD  
NMF  
LDA  
CoRex  
ARIMA  
Neural Nets / Convolutional Neural Nets

## Education

University of  
Central Florida  
B.S. Economics 2020

Aug. 2014 to  
May 2020

## Experience

### Metis Data Science Bootcamp

Data Scientist

Remote  
Sept. 2020 to Current

- Currently engaged in Metis's 12-week accredited data science bootcamp focused on Python programming, machine learning, statistical modeling, data visualization, project design, and communication.
- Designed, built, and communicated 5 end-to-end projects utilizing data science in consumer market and research scenarios.

### Encore Capital Management

Real Estate Private Equity Intern

Boca Raton, FL  
June 2016 to Aug. 2016

Conducted research, updated sub-market data, and evaluated a variety of ongoing/potential multifamily residential projects in major metropolitan areas in collaboration with the multifamily investments group.

### Project Experience:

#### 1699 Market – San Francisco, CA

- Prepared lender memo seeking \$62M in debt financing for a \$95M multifamily project. Analyzed market data to predict a supply shortage of new multifamily residential housing due to rising demand driven by the millennial demographic

#### Hollywood – Hollywood, CA

- Prepared lender memo seeking \$96M in debt financing for a \$148M, 369 unit multifamily project. Developed supply pipeline of future multifamily construction in Hollywood, analyzed rent comps in Excel, and compiled data on top employers, retailers and entertainment in the area

#### Las Ventanas – Boynton Beach, FL

- Managed analysis of a potential \$99M multifamily acquisition. Key factors were high crime index, lack of security, and poor tenant quality which led to low and declining occupancy rates. Prepared recommendation for the team, which resulted in company not pursuing acquisition

## Data Science Projects

### Using Deep Learning A.I. and Census Data to Predict Gentrification

Current

Built an artificial neural network to predict if a California neighborhood will experience gentrification using U.S. census data. Plan to deploy model in an interactive dashboard using Flask and D3.

### Analyzing Finance Industry Culture and Trends in Online Communities

Utilized NLP topic modeling methods such as LSA/SVD, NMF, LDA, and CoRex to analyze topic trends in 50,000 online discussion posts scraped from the popular financial job forum: Wall Street Oasis. Identified cultural trends regarding work/life balance, trending industries (by popularity), and increased competitiveness in industries such as investment banking.

### Predicting Kickstarter Crowdfunding Success Using Machine Learning

Applied ensembling techniques such as random forest and xgboost in conjunction with ARIMA modeling to predict success in meeting project funding goal by the specified deadline on the Kickstarter crowdfunding platform.

### Predicting Box Office Gross Domestic Sales Using Machine Learning

Scraped movie data from the IMDb website and leveraged machine learning algorithms such as K-nearest neighbors and xgboost to predict gross domestic movie sales. Deployed xgboost model in a streamlit app, where users can get a prediction for gross domestic movie sales after identifying feature values.

### Using EDA on MTA Data to Optimize Street-Team Efforts for WTWY Annual Gala

Summarized and visualized MTA and census data using pandas, matplotlib, folium, and seaborn. Provided recommendations to "Women Tech Women Yes" foundation for optimizing street-team efforts while canvassing in NYC for donations and potential Gala attendees.

### Identifying the Effect of FB Political Ad Spending on Poll Performance Using GLM

Used Facebook political ad data, polling data, and generalized linear modelling to identify the causal relationship between Facebook political ad spending and polling performance for candidates in the 2020 Democratic Presidential Primary Election by state.

### Predicting Orlando Home Prices With Machine Learning

Used machine learning techniques such as linear regression, K-nearest neighbors, K-means clustering, random forest, and xgboost to predict Orlando housing prices.

### Predicting Mortgage Approval Success Using Logistic Regression in R

Tuned logistic regression models in R to predict mortgage approval success.