

## Experience

### Metis Data Scientist

Remote - Kalamazoo, MI  
Sept. 2020 to Dec. 2020

Completed a 12-week immersive data science bootcamp focused on project oriented learning. Designed projects in python using statistics, supervised and unsupervised machine learning, exploratory data analysis, databases, and visualization techniques from conception to presentation; including data collection, data management, exploratory data analysis, modeling, and visualizations. Selected work includes:

#### Paintings and Emotions

Applied Convolutional Neural Network, transfer learning with Resenet-101, and data augmentation to classify painting images by the emotion evoked in the observer (negative, positive, mixt). Handled multiclassification and class-imbalance. Used the dataset WikiArt Emotions with 4,105 painting images.

**Tools:** Pytorch, OpenCV, IMGaug, CNN, Deep Learning, Computer Vision

#### Earthquake Building Damage

Classified buildings according to the level of damage suffered after an earthquake. Handled multi-classification and class imbalance. Built a Streamlit app where construction companies can evaluate buildings' level of damage after an earthquake. Used data of 25,000 buildings collected by Kathmandu Living Labs and the Central Bureau of Statistics of Nepal.

**Tools:** Supervised learning, Classification Algorithms (Decision Tree, Random Forest, KNN, Naive Bayes, XGBoost)

#### Audience Taste and Movie Reviews

Applied Natural Language Processing and Unsupervised Topic Modeling to gain insight on audience taste by genre from 25,000 movie reviews to inform the strategic planning of a movie production company. Used the Large Movie Review Dataset created by researchers at Sandford University. Obtained applicable insights regarding what makes the audience like or dislike a movie by genre.

**Tools:** Spacy and NLTK for preprocessing, tf-idf for vectorization, K-Means for clustering, NMF for topic modeling, and Tableau for visualization.

#### Nonprofit Resources Allocation

Applied Exploratory Data Analysis to help a nonprofit organization find the subway stations where volunteers have a higher probability of gathering signatures of people who would participate in their annual gala and donate. Leveraged on data from the New York Metropolitan Transportation Authority, IRS income, and charitable donations by zip code. Found the busiest subway stations and the most active days and times in areas where people are likely to donate.

**Tools:** Data Visualization, Pandas, Matplotlib.

### Humphrey Products

Engineering and Quality Data Analyst

Kalamazoo, Michigan  
Apr. 2020 to Sept. 2020

#### Data Visualization, Dashboards

- Leveraged information collected from multiple sources to create interactive dashboards for executive management to track quality indicators daily, weekly, and monthly.
- Power BI dashboards provided the team with a big picture view of quality across the complex manufacturing process, allowing managers to drill down to specifics like part number, supplier, worker, product, day, etc. Incorporating these dashboards improved productivity by decreasing downtime (15%) and scrap (10%) in 6 months.

**Tools:** SQL, Power BI

### Western Michigan University, Office of Faculty Development

Graduate Assistant - Data Analytics

Kalamazoo, MI  
Sept. 2016 to Apr. 2020

#### Program Evaluation, Survey Research, Quantitative and Qualitative Data Analysis

- Designed and implemented the evaluation of educational programs for faculty development. Applied quantitative and qualitative methods of data collection and analysis (e.g. dependent sample t-test to detect improvement in knowledge and awareness before and after the program; thematic analysis of participants' interviews to identify changes in attitudes, beliefs and behavior)
- Lead the design, administration and analysis of participants' satisfaction surveys, and participant's self-reported assessments.
- Designed, analyzed and reported results for needs assessment survey.
- Prepared the office's yearly report.

**Tools:** SAS, Excel, NVivo, Qualtrics

### Statistics Tutor

Tutored 8 graduate level students in the social and behavioral sciences on the following content:

- Hypothesis testing (dependent and independent t-test, confidenceintervals)Statistical power
- Experimental and Quasi-Experimental Design (one factor between, within, factorial, mixed, ANOVA)

Kalamazoo, MI  
Aug. 2017 to Dec. 2018

### Humanex Ventures (Personnel Selection Consulting Firm)

Research and Assessment Intern

Kalamazoo, MI  
May 2014 to Dec. 2014

- Developed, evaluated, and improved personnel selection instruments
- Using SPSS, measured internal consistency (Conbrach's alpha) of personnel selection questionnaires
- Live translated senior executives' sales presentation for international clients (English - Spanish).

### Intelecta S.A. (Marketing Research Consulting Firm)

Marketing Research Assistant

Santo Domingo, Dominican Republic  
June 2011 to Dec. 2012

- Planned and implemented organizational climate and customer satisfaction studies.
- Collaborated on the creation of two survey instruments, one to measure organizational climate and the other to measure customer satisfaction; analyzed survey data using SPSS and Excel
- Developed structured interview agenda for a customer satisfaction study. Analyzed open-ended responses using a codebook in Excel.
- Identified themes, and reported findings.

## Contact

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📍 Kalamazoo, MI

🌐 [Laura-Urdapilleta](#)

## Education

Western Michigan University Current  
Ph.D. Evaluation, Measurement, and Research  
2021

Masters Evaluation, Measurement, and  
Research 2014

Universidad Autónoma de Santo Domingo  
Bachelor of Arts Communication Sciences &  
Journalism 2010

## Skills

### LANGUAGES

Python  
SQL  
SAS

### LIBRARIES

Pandas  
Numpy  
Scikit-Learn  
NLTK  
Spacy  
Beautiful Soup  
Selenium  
Tensorflow  
Keras

### VISUALIZATION

Matplotlib  
Seaborn  
Tableau  
Power BI

### STATISTICS AND MACHINE LEARNING

Predictive Modeling  
Hypothesis Testing  
Analysis of Variance  
Missing Data Analysis  
Power Analysis  
Multicollinearity, Outlier, and Residual Analysis  
Supervised Learning  
Regression analysis: linear, logistic, non-linear, multiple, ordinal, polynomial  
Regularization: ridge and lasso

### OTHER DATA ANALYSIS TOOLS

Qualtrics  
SPSS  
Excel