

# Maria Diaz

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## Education

California State Polytechnic University, Pomona, May 2020

Master of Science in Applied Mathematics

- Member, California Mathematics Council

University of California Riverside, Riverside, June 2018

Bachelor of Science in Applied Mathematics

- Dean's Honor List

## Experience

**Artificial Intelligence and Machine Learning Scientist**, General Motors, Austin, TX March 2021 - Present

- Design, develop, and deploy high-performance machine learning models to create maps for use in self-driving vehicles
- Scale up models, build training datasets and engineer perception systems from the fairness and AI ethics point of view
- Conduct deep learning applied research to improve autonomous vehicles with a focus on building fair AI models

**Associate Data Analyst**, Sheikh Shoes, Ontario, CA July 2018 – March 2021

- Strengthen our reporting and manage project timelines to address merchandising, marketing, and finance questions
- Transform Excel reports into Python Notebooks using Pandas to increase reporting efficiency by 75%
- Effectively communicate with external clients and collaborate with internal teams to deliver solutions on time

**Graduate Teaching Associate**, CPP Mathematics and Statistics, Pomona, CA January 2019 - May 2020

- Responsible for teaching Trigonometry to 31 undergraduates resulting in 70% of students passing with a B average
- Explain mathematical concepts while facilitating discussions tying back to examples within the workforce
- Provide mentorship and feedback for students throughout the semester and serve as a link between students and faculty

**Research Intern**, UCR Career Center, Riverside, CA March 2018 - June 2018

- Drove innovation and researched opportunities that would improve the website to help transform student experiences
- Influenced large matrixed teams to develop analysis and reporting focused on student performance and engagement
- Collected data that focused on improving the resources available to the increasing number of students pursuing a PhD

**Research Assistant**, UCR Mathematics Department, Riverside, CA August 2017 - June 2018

- Programmed an algorithm in Python that dealt with effective divisors which is extensively studied in algebraic geometry
- Interpreted and scrutinized large data sets in order to develop a system that can find a correlation between data points
- Collaborated with advisor weekly to test data hypotheses and discuss future implementations as well as project goals

## Academic Projects

**Data Science Project**, Statistical Consulting Spring 2020

- Drove innovation leveraging Data Science and Machine Learning algorithms such as, logistic regression tree and random forest in Python to experiment with and establish new ways of driving customer engagement

**Neural Network (Artificial Intelligence)**, Mathematical Programming Spring 2019

- Engineered a pattern recognition neural network in MATLAB that classified wines by winery based on its chemical characteristics, and was then generalized to accurately classify wines that were not used to design the solution

**Machine Learning Algorithm**, Applied Regression Analysis Spring 2019

- Composed multiple statistical regression models and algorithms like KNN, Splines, and Kernels in R to decipher the magnitude of the long-term ozone trend and the variables that effect the ozone layer the most

## Skills and Publications

- Publications: "Speaking Out: A Mathematical Model of Language Preservation," Elsevier, May 2021
- Data Science Competencies: Machine Learning, Probability Distributions, Hypothesis Testing, Natural Language Processing, Data Mining, Statistical Modeling
- Programming Languages: Python, R, LaTeX, C++, MATLAB, SQL
- Related Coursework: Computer Science, Machine Learning, Statistical Consulting, Mathematical Programming