# Juan Acosta

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## DATA SCIENTIST

Experience in data acquisition and data modeling, statistical analysis, machine learning, deep learning, and NLP. With a background in music and teaching, I bring strong collaboration skills, as well as highly analytical problem-solving skills.

## TECHNICAL SKILLS

Python, SQL, numpy, pandas, scikit-learn, tensorflow,  algorithms and data structures, AWS, Javascript, HTML, CSS.

## TECHNICAL PROJECTS

### Distance Matrix
Create distance matrices and retrieve information from Google Maps API
- Set up an API to retrieve information in a quick and precise way
- Formatted the information to properly work with Python and Pandas
- Created functions to help retrieve, format, and store the information properly
- Included functionality to use it in SQL

### Urban Sound Classifier
Use machine learning techniques to classify different urban sounds
- Obtained audio files from Kaggle's UrbanSound8K
- Extracted relevant features of each audio signal using Librosa (MFCCs, Spectral Centroid, Spectral Flux, etc.)
- Tested multiple ML models for prediction (Logistic Regression, XGBoost, CNN)
- XGBoost obtained the highest accuracy at ~70%

### Speech Recognition
Create a neural network that recognizes the voice of 10 different individuals
- Extracted and preprocessed Mel-Spectrograms and MFCCs from audio clips
- Performed EDA to determine most valuable features for the model
- With a focus on MFCCs, tested different neural networks architectures to determine best approach
- Network with Bidirectional LSTM layers yielded the best results with a test accuracy of 85%

## EDUCATION

**Flatiron School, New York, NY**                                                        11/2023 - 03/2024
Immersive Data Science Bootcamp program

**SUNY Purchase, Purchase, NY**                                                        08/2015 - 05/2017
Master of Music in Jazz Performance

**Webster University, St. Louis, MO**                                                   08/2010 - 05/2014
Bachelor of Music in Jazz Studies

## EXPERIENCE

Barista, **Starbucks**, New York City, NY                                              08/2022 - Present
- Customer service, and beverage preparation

Music Teacher, **Colegio Menor**, Quito, Ecuador                                 01/2019 - 02/2020
- Restructured music theory and audio technology curriculum
- Wrote material for teaching scales, chords, and rhythm
- Taught music technology skills like recording, mixing, sound editing, and sampling

Freelance musician and instructor, **Self-employed**, New York City, NY     08/2015 - 05/2018
- Performed in multiple styles in New York City and St. Louis
- Taught private music lessons to children and adults