

# SPEECH EMOTION RECOGNITION

Using Python to Identify User Sentiment

By Nicholas Wertz



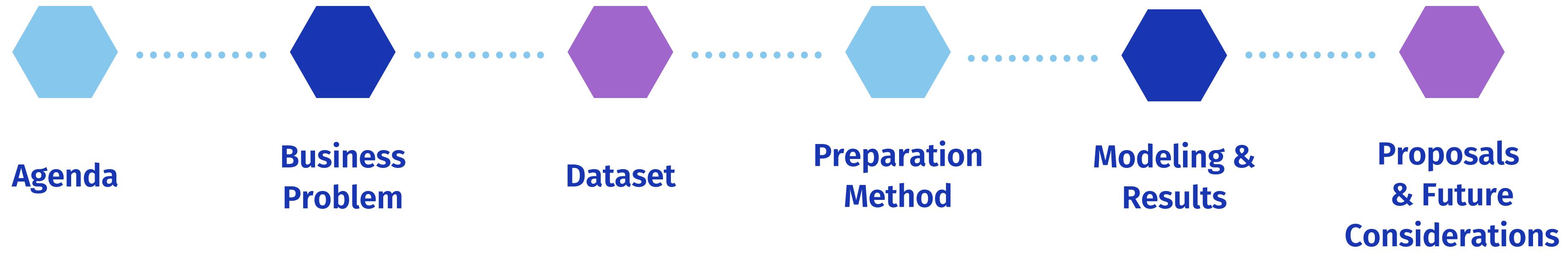
# Meet Your Data Scientist

# **NICHOLAS WERTZ**

Flatiron School Alumnus



# Agenda



A photograph of a woman with dark, curly hair wearing a VR headset. She is looking down with her hands near her face, possibly interacting with a virtual environment. The background is a gradient of purple and blue.

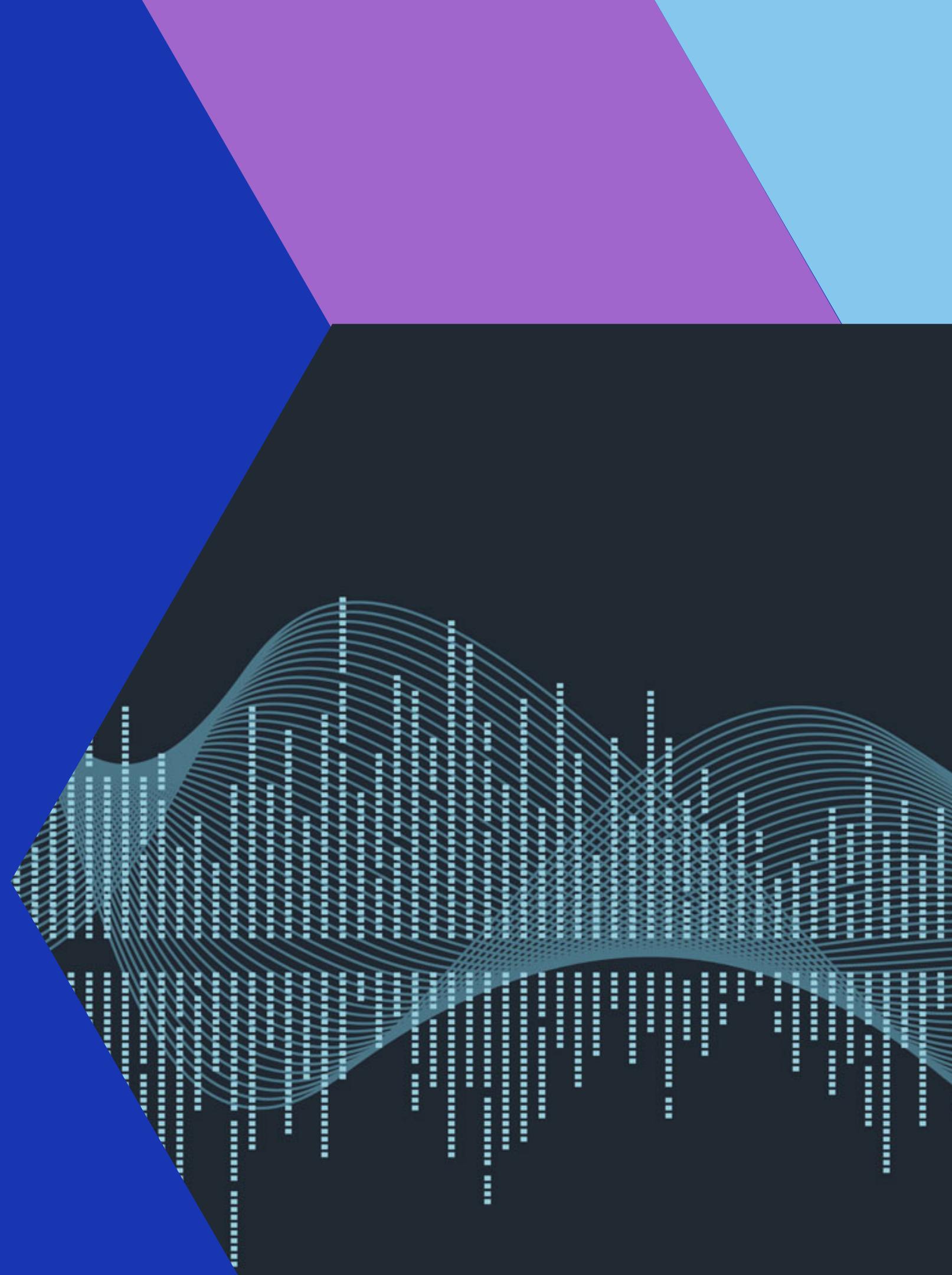
# HOW CAN WE ENGAGE USERS?

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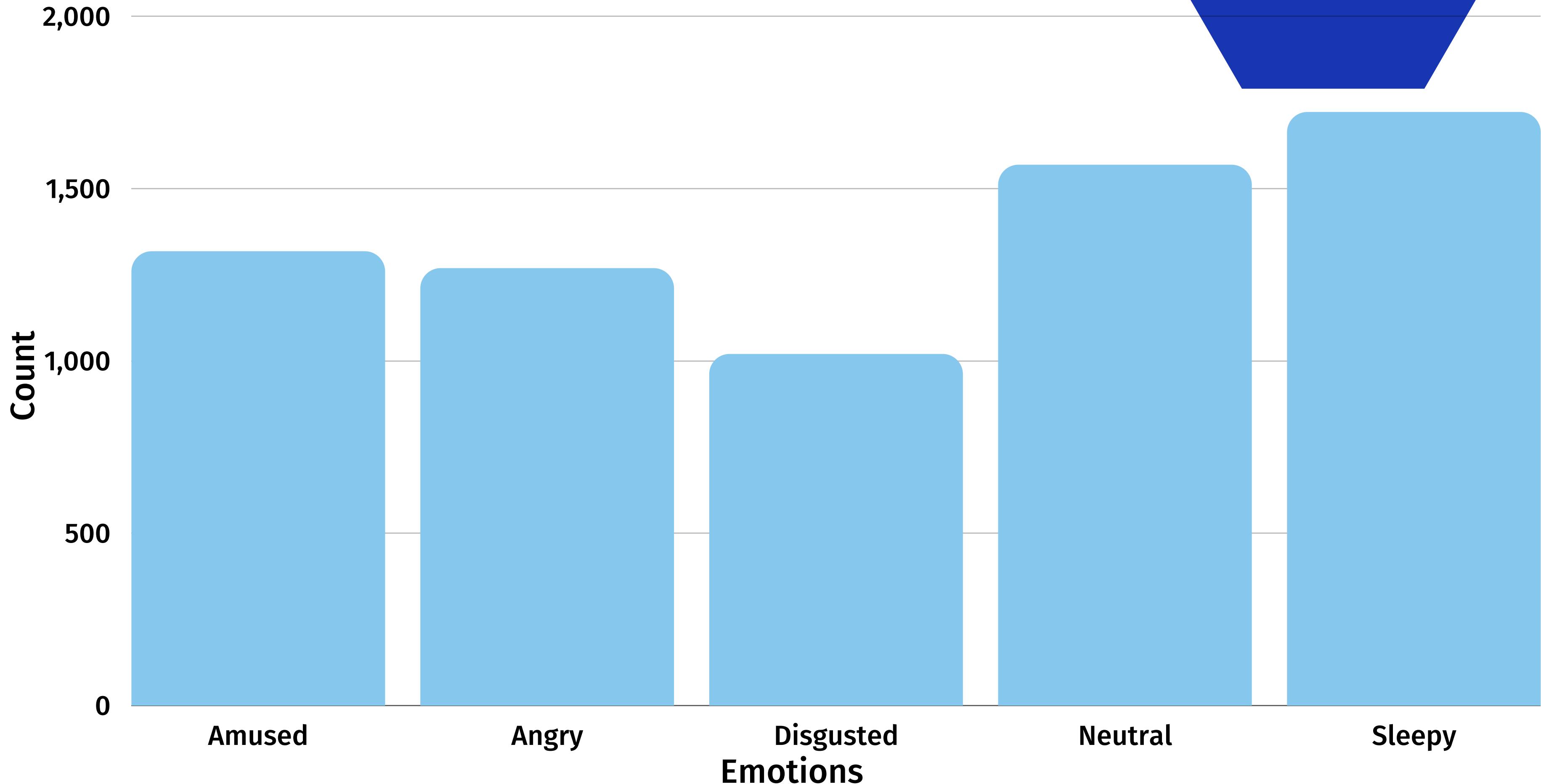
Track user's emotional state from their audio

# THE DATA

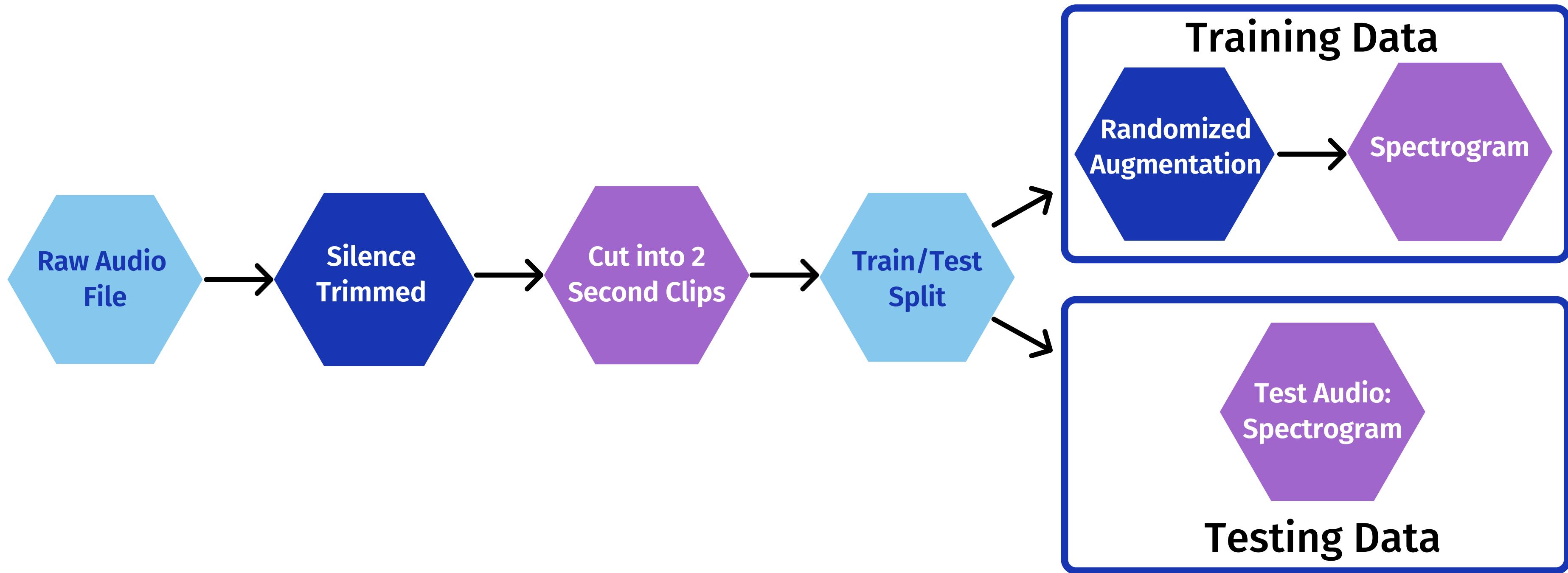
From the Emotional Voice Database  
Nearly 6,900 voice recordings



# Emotions in Dataset



# Data Preparation Method

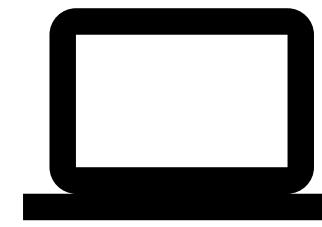


# MODELING

Using a Convolution  
Neural Network



# Modeling & Results



**Convolutional  
Neural Network**

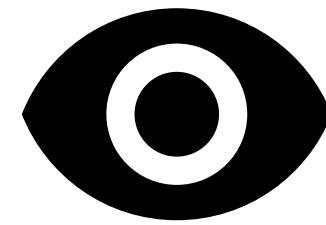
**5 Emotional Classes**

**10 Cycles**



**74% Accuracy**

**Minimal Loss**



**Class  
Performance**

**Sleepiness F1 = 84%**

**Neutral F1 = 59%**



# **PROPOSALS & FUTURE ACTIONS**

# Proposals



- Animate user avatar faces
- Target less satisfied users
- Special offers to keep users engaged for longer



# Future Actions

- Update with User Audio
  - More Accents
  - More Languages



**Nicholas Wertz**

Data Scientist - Flatiron School



**THANK YOU!**  
**ANY**  
**QUESTIONS?**