

SPEECH EMOTION RECOGNITION

Using Python to Identify User Sentiment

By Nicholas Wertz



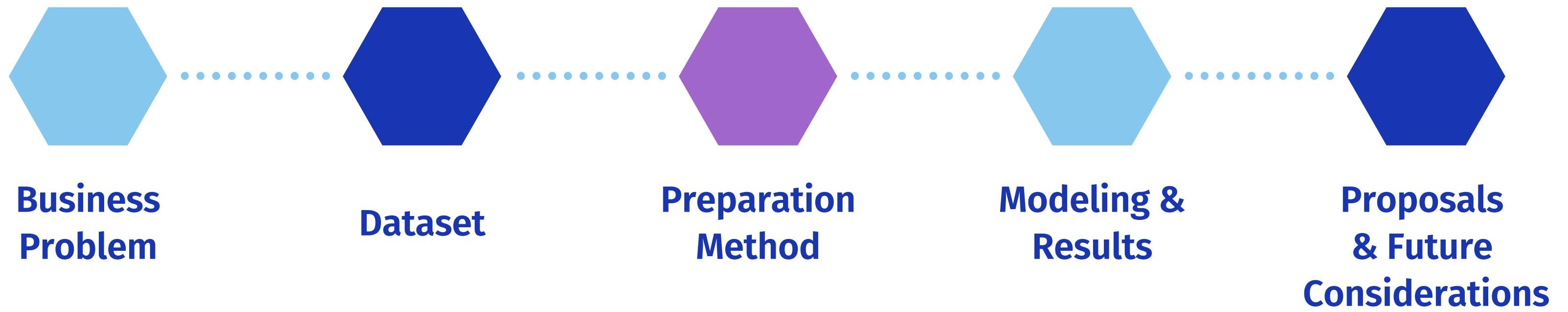
Meet Your Data Scientist

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Agenda



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

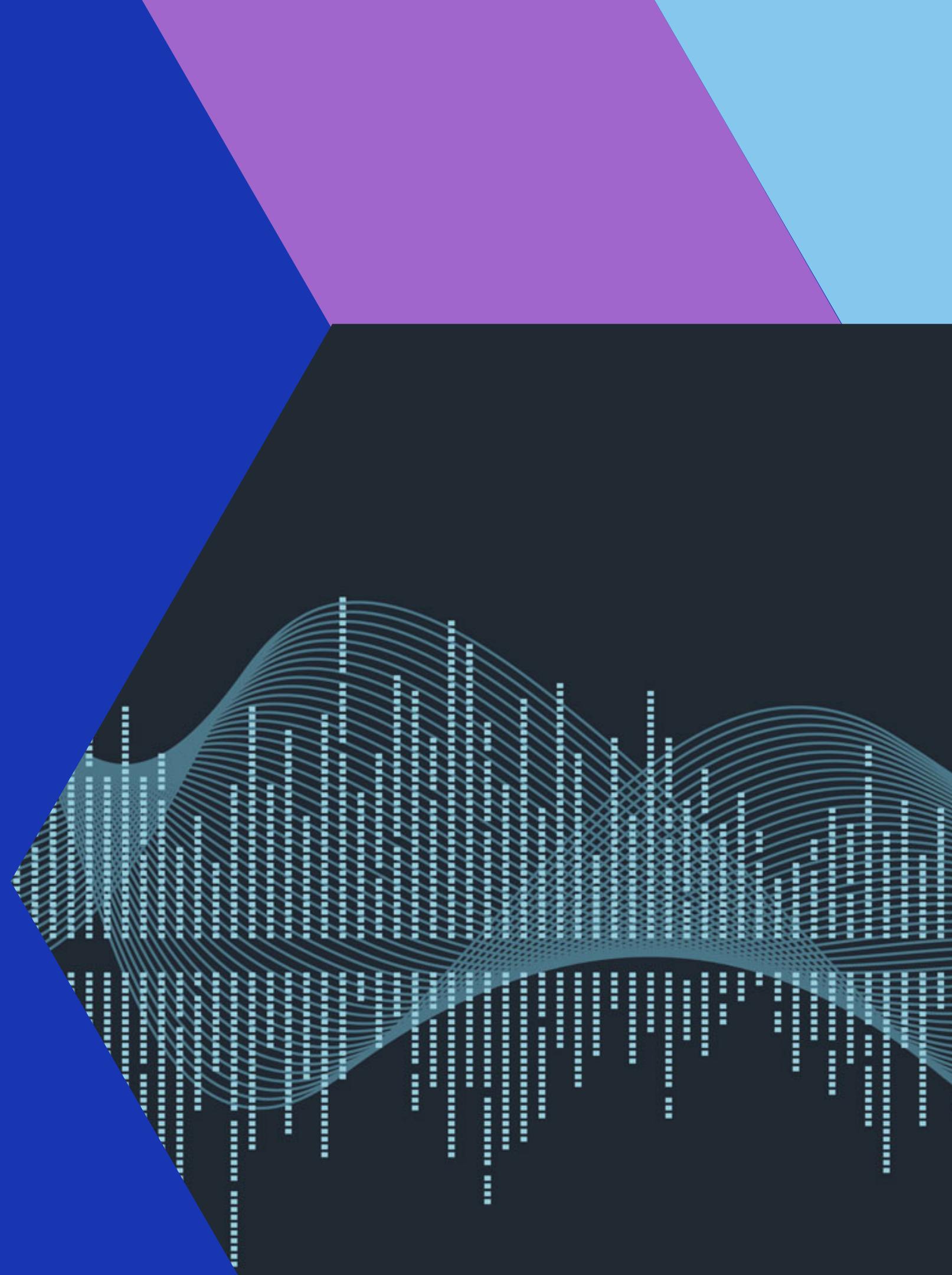
HOW CAN WE ENGAGE USERS?

How Can We Engage Users?

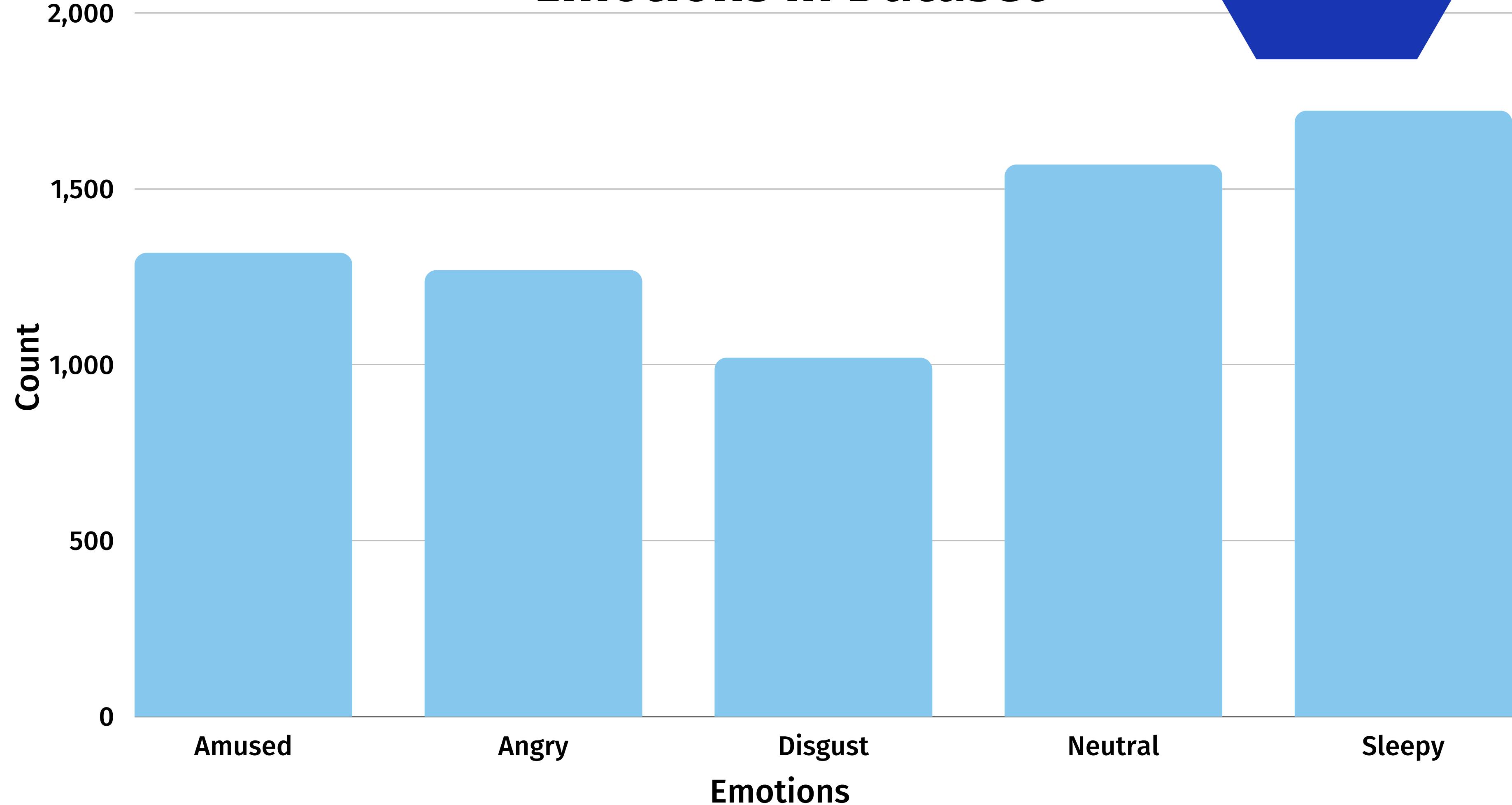
Track user's emotional state from their audio

THE DATA

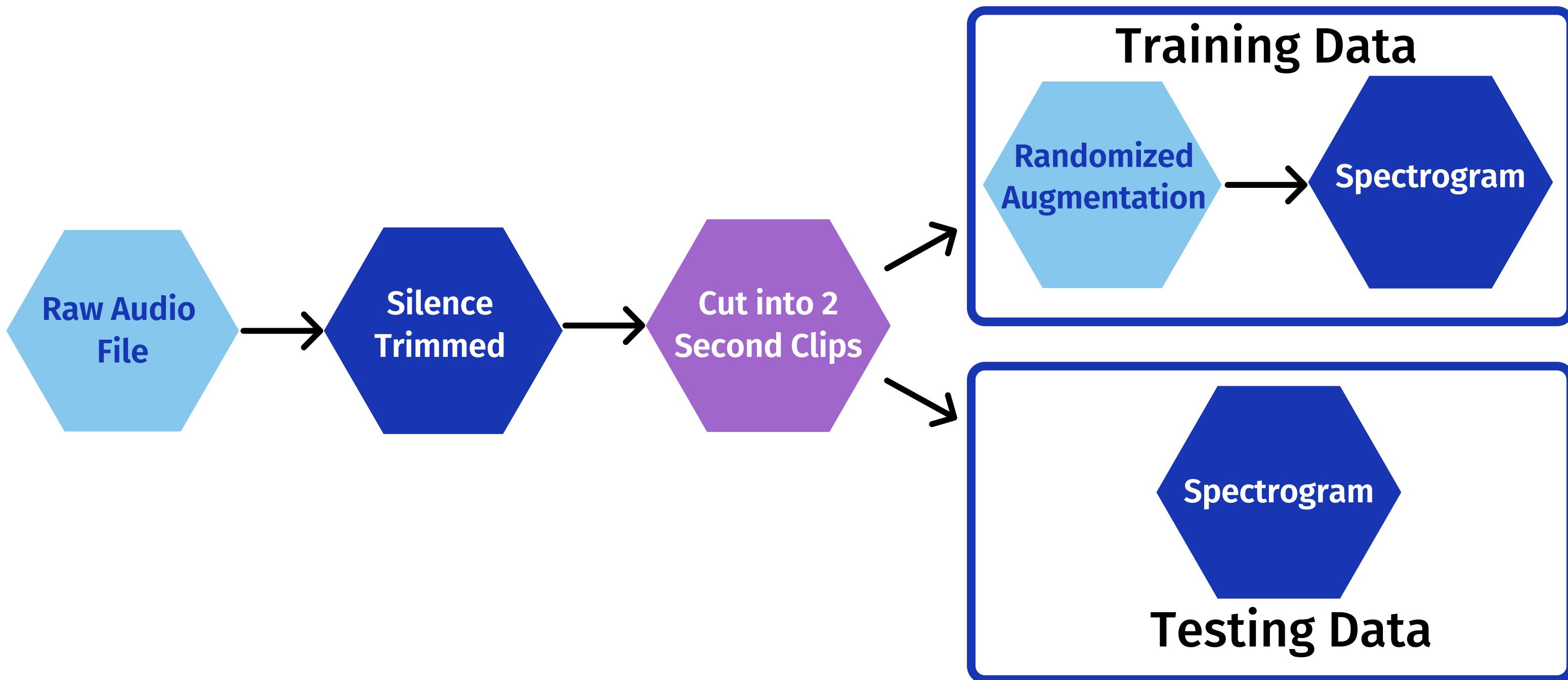
From the Emotional Voice Database
Nearly 6,900 voice recordings



Emotions in Dataset



Data Preparation Method

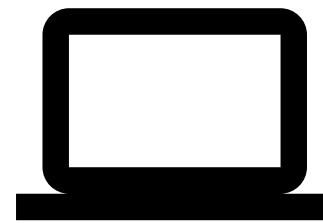


MODELING

Using a Convolution
Neural Network



Modeling & Results



**Convolutional
Neural Network**

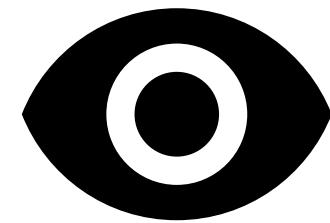
5 Emotional Classes

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?