

Background



- Identify registered players, respond to user-specific patterns to uniquely connect with players and retain interest

Problem/Gap

- Can only recognize one player (center player) in a game
- Not everyone is comfortable with Victor's (high) level of sarcasm

Motivation and Goal

- Personalizing interactions improve engagement and help establish intimate, long-term relationships between Victor and players
- To appeal to general public, varying Victor's level of sarcasm on a personal basis can help make interactions more comfortable and desirable

Process

- 1) **Set up automated system that adds registered users to database**
- 2) **Recognize multiple players in a game**
 - Track multiple faces and relative locations in frame to assign to corresponding seats
 - Expand variables and statistics to multiple players
- 3) **Sentiment Analysis of Interaction Log (Text)**
 - Collected 10 video recordings of virtual games between players and Victor through Zoom
 - Transcription of collected logs and manual labelling of ground truth
 - Experimented with different models and tuned Random Forest Classifier
 - Trained with online data and collected data
 - Tested with collected data

Results

Standard Sentiment Analysis

Low accuracy (33.6%): sarcastic responses categorized as negative when they imply the opposite (comfortable bickering)

Sarcasm Sentiment Analysis of Interaction Log (Text)

Unsatisfactory accuracy (57.5%) with collected data and online data

Working to improve accuracy by considering context and expectation

- Expect a negative response if Victor initiates negatively
- Categorize expected responses as positive and unexpected responses as negative instead

Work-in-Progress

- Combine facial features (from OpenFace) with textual features in the model
- Evaluate sentiment over time-steps instead
 - Random forest classifiers for each time segment

A **robot:** Have other people ever told you you're slow?

center: and that's why you're the loser

B **robot:** That's all you've got?

center: :c

C **robot:** You used to finish turns much faster than this. Disappointed.

center: shut up

Logs from three different players. All 3 were classified as negative by random forest classifier, when A and C were bickering with Victor and only B was a truly negative reaction

Future Direction

- Try neural network models with time series data
- Integrate work to the live Victor system and see it in action!
- Evaluate effects by surveying people's experience with and without personalization

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