

BACKGROUND

As human-robot interactions become increasingly commonplace it is important to make the experience feel natural. By studying the ability of a robotic comedian to perceive social cues from an audience and adjust its behavior appropriately insight can be gained into how interpersonal communications between robots and humans can be improved. Our project will study the ability of a robot to determine how well a joke is received based on the laughter it hears and seek ways to improve the success rate of its analysis.

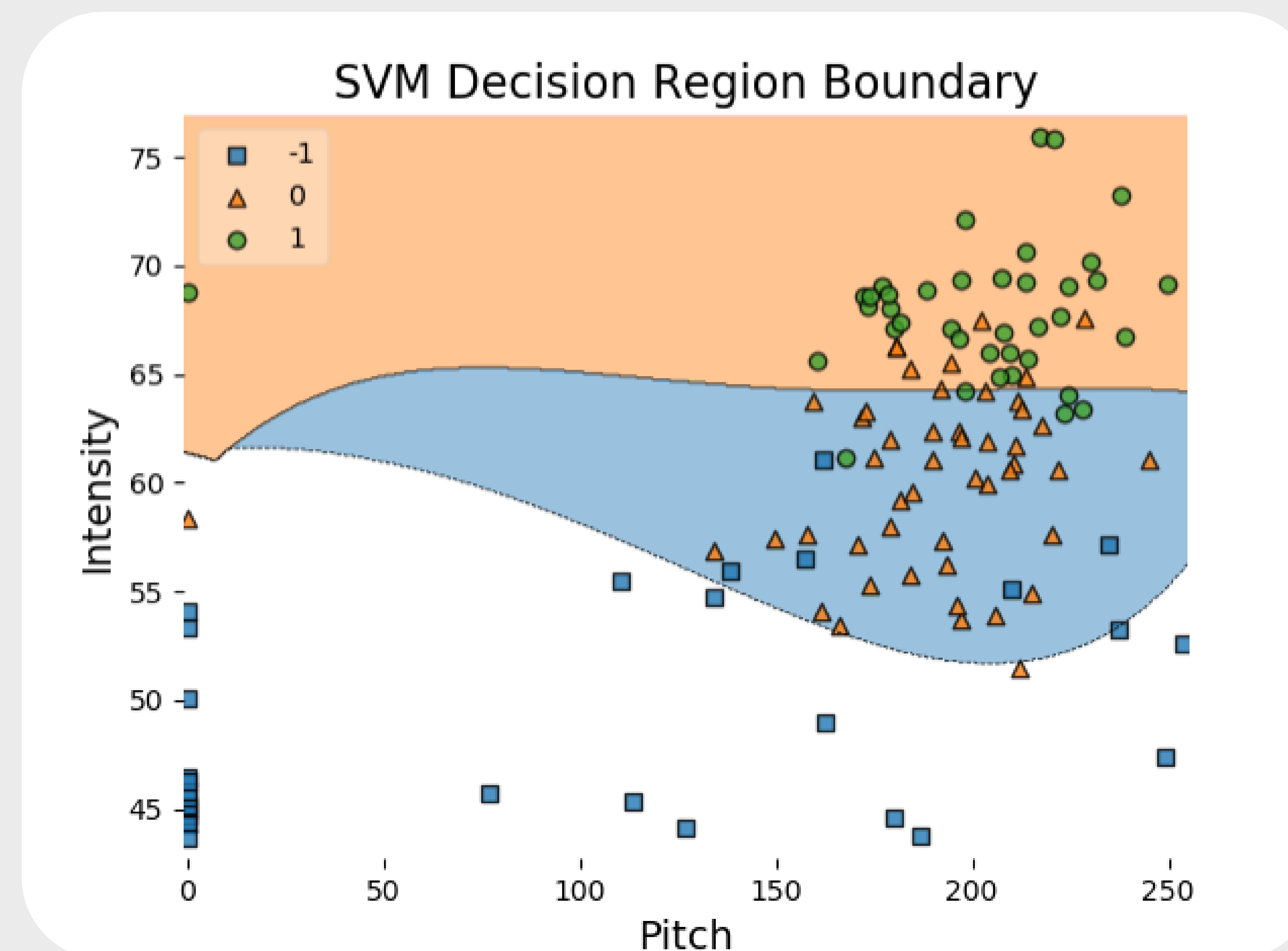
PROBLEM

Interactions with robots have become increasingly commonplace in modern society as new technologies and uses for robots emerge in fields ranging from industry to rehabilitation to everyday personal assistants. One of the major problems present in human-robot interactions is a robot's ability to understand and adapt to human reactions, both verbal and nonverbal, to changes in a situation. This is a complex problem that includes a large number of different types of research such as human recognition, natural language processing, predictive analysis, and task planning. Currently, many human-robot interactions feel unnatural or ineffective as users are required to give clear, specific commands to robots in order to get them to perform as intended. In many situations, robots are not sophisticated enough to react naturally in real environments as they encounter events that are outside the scope of their programming.



BUILDING MORE SELF-AWARE EVERYDAY ROBOTS

Using Stand-up Comedy to Advance the Quality of Human-Robot Interactions



POST-JOKE CLASSIFICATION BY FEATURE (PICTURED ABOVE)

- Features are Pitch, PitchSd, Intensity, IntensitySd, MaxSound, MinSound
- SVM (support vector machine) Classifier to separate data
- 2 Class or 3 Class (pictures) classification
- 95% and 85% accuracy respectively

MID-JOKE CLASSIFICATION

- Bullet. lum exer adipsuistrud doloree tuerat lorpera esenibh eu faccum eum iuscili quamcommy nit lorerillut ullam quat lore verostrud ming faciliquisse modolortin volore
- Vel et vel dionsenit adit, consenim zrrillute el euguerostie faci bla conse ad essi. Vel et vel dionsenit adit, consenim zrrillute el euguerostie faci bla conse dolore tet, volobor si.
- Lore del utatis amcorpercin henim riliq uismodo leniat aciduisl il eugait velis nos alit prat ad tions et vel euguerostie dolore tet, volobor si.
- Sim ipsum dolorem velis aut vulputpat eu facilit am delestrud eui blan vendre elisisc illaorp ercilisi blan eu amconsequat, senisi.

TEAM MEMBERS

- Timothy Bui
- Yuhang (Tony) Chen
- Brian Ozarowicz
- Trevor Webster

ABOUT OUR TEAM

We are a team of four computer science from many different backgrounds and concentrations. Using our diverse knowledge, we set out to improve an existing automated machine learning system to detect human reception to a joke told by a robot.

Our team operated in two parts: one researching and working on the post-joke laughter/reception detection and the other working on the same for the mid-joke laughter detection.

ACKNOWLEDGEMENTS

- Dr. Naomi Fitter
- John Vilks
- Ella Bisbee

