Emotion recognition and annotation is a very important research area as we make use of computer interactions in our daily lives, and it helps to bridge the gap between humans and computers. This will help with the development of artificial intelligence in areas such as education and healthcare.

**Research on Emotion annotation models**

In my research I came to know that there are 2 different categories of emotional models.

1. Categorical – Defines a set of emotional categories.
2. Dimensional – Quantitative measurements using multi-dimensional scales.

Emotional GUI used dimensional models but still incorporates categories by helping the user figure out where main emotions like sadness/happiness fall on the scale. Our focus for this research should be to improve the way these models are presented to the user and make the annotation process smooth. There are different ways to represent the annotated emotion and we are using a 2D representation called ‘Valence-Arousal’.

FEELTRACE is a tool that I found to be very similar in technique to EmotionGUI.

VAOAT Tool was used to populate a database.

DANTE is a web-based tool but otherwise the functionality is quite similar to EmotionGUI.

JERI is a continuous annotation tool that uses a joystick to help with annotation.

**Research on Evaluation of these tools**

There are different UX techniques used when analysing an emotion annotation tool. While some are effective for the given annotation tool some are not as those techniques are more suitable for emotion annotation that is not done via speech. The research paper ‘Inter-Rater Agreement and Usability: A Comparative Evaluation of Annotation Tools for Sentiment Annotation’ focus on evaluating different UX techniques for tool analysis but this is done for emotion recognition from text. But nonetheless these techniques can be adapted to speech emotions by recognizing what they are trying to evaluate with each technique.

Anther common theme talked about in these papers were how to extinguish the person bias brought in by the annotators. This is something I also thought of as different people would view the same emotion type in different ways given the time of the day, their current mood etc.

A common term I came across when searching about evaluations is ‘Inter rater agreement’.

(haven’t looked into this yet)

**Research on other bio signals other than speech to annotate emotions.**

Most new research tends to integrate more than one bio signal to the emotional recognition section as this makes the emotion analysing process much better.