CASE STUDY

Explainable mental health AI with novel affect video dataset

How Aiberry identified a relationship between affect scores and depression risk with data annotations from Centaur Labs

Overview

Aiberry is an award-winning mental health start-up whose AI-powered conversational depression assessment tool supports mental healthcare providers in their initial mental health screening process, shifting from a paper-based screen, to one that is more objective, reliable, and quantifiable.

Challenge

- Wanted to add explainability regarding the patterns found in the video data that were influencing depression risk scores
- All open source datasets/models were incomplete, irrelevant, or low quality; No capacity to manage annotation at scale in house scalable annotation system
- Needed 10K+ facial images classified while

Solution

- Classified 8,600 frames/1wk, 6 qualified opinions per frame. 88% Agreement with the 140 Gold Standards.
- Classified emotional affect of 5 frames sampled from video as neutral, negative, positive, or 'cognitive effort'; Classified 1,846 videos/1wk with ~22 qualified opinions per case; 74% Agreement with the 75 Gold Standards.

Impact

- High quality labeled data powered model that accurately predicted affect rating
- Created novel metric - affect score - from labeler disagreement of 22 qualified opinions
- Discovered explainable relationship between high depression risk scores and affect rating

We used the disagreement between labelers to convert categorical labels into a continuous metric - that's the training data we used and it was only possible because of the 20+ opinions we gathered from Centaur Labs on each piece of data.

aiberry

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