Notes\_on\_datasets

I use a text editor (Sublime) to help me count occurrences within datasets.

# aesdd

From the readme

For the creation of v.1 of the database, 5 (3 female and 2 male) professional actors were recorded. 19 utterances of ambiguous out of context emotional content were chosen. The actors acted these 19 utterances in every one of the 5 chosen emotions. One extra improvised utterance was added for every actor and emotion. The guidance of the actors and the choice of the final recordings were supervised by a scientific expert in dramatology. For some of the utterances, more that one takes were qualified. Consequently, around 500 utterances occured in the final database.

No gender labels, but I manually determined that speakers 1, 2, and 5 are female-sounding and speakers 3, 4, and 6 are male-sounding. Contrary to the documentation, the dataset actually contains 6 different speakers.

# anad

There’s something up with the segmented files; they all sound the same?

Labels at the discourse level? Low face validity

# BAUM1

There are misspellings in the emotion labels.

“Subject Label”, “Clip”, and “Clip Name” don’t always match in the acted annotations: S019\_006, S019\_008, S019\_009, S019\_010, S019\_011, S019\_012, S019\_013, S019\_014, S019\_015, S019\_016, S019\_017, S019\_018, S019\_019, S019\_020, S019\_021, S019\_022, S019\_023

I have manually corrected these in preclean.tsv

Not all files appear in the annotations excel files. I looked and found 72 such files.

To recode these, I looked for other samples with similar elicitation prompts. This worked fine for the acted samples (8), but the spontaneous samples (64) are more heterogenous. I matched the subtitles of 3 of these exactly with others and carried over the labels. The rest were too subjective for me to feel confident rating them on my own. 61 records dropped

They made the actors watch some disturbing stuff to elicit emotions…

From the paper

The data was collected from 31 subjects, 17 of which are female, which are shown in Fig. 2. All subjects are native speakers of Turkish, and have an age range of 19-65.

…



The paper is inconsistent on the actual number of participants coded female.

S015\_007 spontaneous emo label does not match emo code in annotations!

Some mp4s no audio? Check downstream

Boredom is mapped to negative valence (van Tilburg & Igou, 2017; Kort, Reilly, & Picard, 2001); Regan, Mandryk, & Atkins (2007)

Interest is mapped to positive valence (Kort, Reilly, & Picard, 2001); remapped to curiosity; see notes in emoreact section on curiosity

Contempt mapped to negative (Trnka, Mana, & Kuška, 2021; Ferran 2017; Melwani, Mueller, & Overbeck, 2012)

Surprise is negative (Noordewier & Breugelmans 2013; Koch, Alves, & Krüger 2016; Noordewier, Topolinski, & Van Dijk 2016)

Unsure->uncertain

Bothered can be negative too

# BAUM2

Extensive manual Pre-cleaning done in data\_dir.xlsx; stages of processing go from leftmost sheet to rightmost sheet

Recoded to valence and recounted majority vote

Turkish and English

# cafe

Surprise is now negative

“This dataset includes six different sentences, pronounced by twelve actors, in six basic emotions plus one neutral emotion. The basic emotions are acted in two different intensities. This represents a total of 936 different audio samples.”

All samples accounted for

Québec French

# CREMA-D

“There are 91 actors, 48 male and 43 female (51 actors worked with one director, 40 with the another). The actors were between the ages of 20 and 74 with a mean age of 36. Table 2 provides detailed age information. Several racial and ethnic backgrounds were represented in the actor group: Caucasian, African American, Hispanic, and Asian. Table 3 provides a detailed breakdown of the racial and ethnic groups.”

FROM README:   
CREMA-D is a data set of 7,442 original clips from 91 actors. These clips were from 48 male and 43 female actors between the ages of 20 and 74 coming from a variety of races and ethnicities (African America, Asian, Caucasian, Hispanic, and Unspecified).

Actors spoke from a selection of 12 sentences. The sentences were presented using one of six different emotions (Anger, Disgust, Fear, Happy, Neutral, and Sad) and four different emotion levels (Low, Medium, High, and Unspecified).

Participants rated the emotion and emotion levels based on the combined audiovisual presentation, the video alone, and the audio alone.

Crowd-sourced ratings

“Binomial majority is used to define majority recognition. Unlike traditional majority, which is defined as more than 50% of raters having selected the specific emotion, binomial majority is achieved when a binomial test would reject at the 95% confidence level the null hypothesis that the most commonly chosen label is selected randomly from the six possible labels.”

* Recode intended emotions to valence
* Recode votes to valence
  + A, D, F, S -> -1, N -> 0, H -> 1
  + H:N -> 1
  + Remaining -> -1 if the vote string doesn’t contain “N”
* Retain the record if any of VoiceVote valence, FaceVoteValence, or MultiModalVote valence matches the intended valence

Discarded 569, kept 6873

Intended emotion used for final valence label

# filelist is copy-pasted from data\_selection.xlsx

# dzafic

Just 6 samples, so I created the tsv manually

# ekorpus

The corpus contains 1,234 Estonian sentences that express anger, joy and sadness, or are neutral. [867 retained]

Female voice, 44.1 KHz, 16Bit, Mono;

wav, textgrid: phonemes, words, sentences.

The audio-recordings and text of sentences can be downloaded and saved.

^ <https://metashare.ut.ee/repository/browse/estonian-emotional-speech-corpus/4d42d7a8463411e2a6e4005056b40024a19021a316b54b7fb707757d43d1a889/>

Elicited spontaneously

Used <http://peeter.eki.ee:5000/reports/valence>

To filter only samples with >51% rater recognition for positive, negative, and neutral valence

[Text influence: all

Emotion: all

Min. recognition %: 51]

Filter op returned list of sample IDs

Used the corresponding textgrid field for emotion category label

69 Sample IDs missing from dataset: 466, 468, 475, 481, 485, 493, 495, 499, 509, 511, 521, 550, 552, 554, 556, 558, 564, 570, 572, 578, 582, 586, 588, 592, 594, 598, 608, 612, 626, 638, 642, 469, 471, 473, 507, 515, 519, 525, 527, 529, 531, 533, 535, 537, 541, 545, 547, 548, 560, 562, 566, 568, 574, 584, 590, 596, 600, 602, 604, 606, 610, 614, 620, 622, 624, 632, 634, 640, 644, 646

253 sample IDs discarded since perceived valence did not match intended valence:  
120325, 13875, 13701, 13935, 13737, 120706, 120732, 13673, 14039, 121322, 121324, 173, 217, 229, 279, 285, 13435, 13473, 13525, 13661, 13677, 13683, 13687, 13743, 13799, 13877, 13879, 13903, 13917, 13923, 13929, 13967, 13979, 120151, 120161, 120171, 120173, 120203, 120221, 120225, 120227, 120233, 120317, 120365, 120526, 120532, 120534, 120536, 120572, 120590, 120692, 120712, 120718, 120744, 120901, 120909, 120961, 121141, 121188, 121208, 121286, 121312, 171, 121330, 13639, 14131, 14163, 14167, 14179, 14353, 120263, 120311, 120403, 120568, 120596, 120598, 120600, 120616, 120676, 120738, 120819, 120857, 120943, 120951, 120955, 120963, 120971, 121003, 121123, 121145, 121156, 121194, 121206, 57, 91, 175, 269, 395, 13249, 13311, 13335, 13341, 13627, 43, 120279, 120281, 120845, 65, 69, 120323, 121113, 120337, 127, 13583, 121214, 120367, 120369, 121222, 167, 185, 195, 121121, 121266, 120401, 121232, 13643, 13649, 13773, 13949, 13983, 120923, 120445, 120451, 120457, 120540, 14125, 14129, 121137, 14137, 121139, 120586, 120588, 121234, 14165, 121150, 121268, 120967, 120975, 14201, 120979, 120634, 120642, 120995, 14249, 120662, 14259, 14261, 121174, 13001, 121007, 120670, 14281, 14283, 13033, 13071, 120680, 121182, 121051, 121184, 13091, 121186, 120742, 14375, 120750, 13179, 120754, 121276, 121067, 121071, 121073, 14451, 120768, 14463, 120770, 14477, 13255, 121288, 120776, 121198, 120780, 14543, 14547, 13331, 121202, 120814, 120163, 120175, 120177, 120189, 120829, 120831, 13451, 120833, 13459, 120835, 120839, 120696, 13009, 120782, 14295, 13251, 121075, 120219, 13679, 120877, 120881, 120895, 120931, 121041, 121152, 121244, 121310, 305, 13077, 13085, 13181, 13199, 13257, 13267, 13433, 13675, 13721, 13839, 13843, 13859, 13965, 14035, 14109, 14205, 14209, 120139, 120147, 120215, 120297, 120315, 120347, 120355, 120359, 120381, 120538, 120644, 120690, 120788

# EmoDB

From abstract…

Ten actors (5 female and 5 male) simulated the emotions, producing 10 German utterances (5 short and 5 longer sentences) which could be used in everyday communication and are interpretable in all applied emotions.

The recordings were taken in an anechoic chamber with high-quality recording equipment. In addition to the sound electro-glottograms were recorded. The speech material comprises about 800 sentences (seven emotions \* ten actors \* ten sentences + some second versions).

The complete database was evaluated in a perception test regarding the recognisability of emotions and their naturalness. Utterances recognised better than 80% and judged as natural by more than 60% of the listeners were phonetically labelled in a narrow transcription with special markers for voice-quality, phonatory and articulatory settings and articulatory features.

The database can be accessed by the public via the internet (<http://www.expressive-speech.net/emodb/>). 🡨 link is no good

From <https://www.kaggle.com/piyushagni5/berlin-database-of-emotional-speech-emodb> :

The EMODB database is the freely available German emotional database. The database is created by the Institute of Communication Science, Technical University, Berlin, Germany. Ten professional speakers (five males and five females) participated in data recording. The database contains a total of 535 utterances. The EMODB database comprises of seven emotions: 1) anger; 2) boredom; 3) anxiety; 4) happiness; 5) sadness; 6) disgust; and 7) neutral. The data was recorded at a 48-kHz sampling rate and then down-sampled to 16-kHz.

Every utterance is named according to the same scheme:

* Positions 1-2: number of speaker
* Positions 3-5: code for text
* Position 6: emotion (sorry, letter stands for german emotion word)
* Position 7: if there are more than two versions these are numbered a, b, c ....

Example: 03a01Fa.wav is the audio file from Speaker 03 speaking text a01 with the emotion "Freude" (Happiness).

Table

Description automatically generated

# EmoReact\_V\_1.0

Train-val-test split provided, keeping speakers separated between splits

Discard the split in favor of re-splitting, stratifying by language and dataset (and gender?); speaker gender was unbalanced by split too

multimodal emotion dataset of children between the ages of four and fourteen years old. The dataset contains 1102 audio-visual clips annotated for 17 different emotional states: six basic emotions, neutral, valence and nine complex emotions including curiosity, uncertainty and frustration.

Regan, Mandryk, & Atkins (2007) associate excitement with positive valence and frustration with negative valence and boredom is negative

Lang (1995); Russell, Weiss, & Mendelsohn (1989) – excitement is positive

Carleton (2016); Anderson, Carleton, Diefenbach, & Han (2019): uncertainty is negative

Curiosity gets mixed reviews: van Lieshout, Traast, de Lange, Cools (2019); Shin & Kim (2019); Noordewier & van Dijk (2017)

[Nojavanasghari, Baltrusaitis, Hughes, & Morency (2016)](https://www.researchgate.net/profile/Behnaz-Nojavanasghari/publication/305945989_The_Future_Belongs_to_the_Curious_Towards_Automatic_Understanding_and_Recognition_of_Curiosity_in_Children/links/57a6fd0f08ae455e8542cbe7/The-Future-Belongs-to-the-Curious-Towards-Automatic-Understanding-and-Recognition-of-Curiosity-in-Children.pdf) looked at EmoReact and found that curiosity was associated with positive valence. Hill, Fombelle, & Sirianni (2016) also treat it as positive. So for EmoReact, curiosity could be treated as positively valenced.

I was going to treat them all as positively valenced samples, but MELD also allowed for multiple surprise valences. Therefore, surprise will not have a set valence unless no valence score is provided by the dataset.

Not all emotions in the paper are in the dataset labels… because of v1?

Present: curiosity, excitement, happiness, uncertainty, surprise, disgust, fear, frustration

missing: exploration, confusion, anxiety, attentiveness, anger, sadness, embarrassment

regarding annotating speaker identity, the paper cites Florian et al. as reference #47, but the 47th reference is Schroff, Kalenichenko, & Philbin 2015: “A unified embedding for face recognition and

clustering.”, which doesn’t sound like it’s about annotating speaker identity/gender. There was no other Florian in the references, so I can’t trace this method.

Anyways, I’m manually annotating gender of the child subjects myself, mostly using the thumbnails and listening to the audio when I’m not as sure

Sometimes it’s the adult interviewer’s voice, not the child subject; sometimes both. It is unclear whether the label votes are for the interviewer or child subject in these cases, so where I identified it, I manually omit the observation: VCR107\_2.mp4, BULLYING27\_2.mp4, GAMEBOY19\_2.mp4, GAMEBOY29\_2.mp4, KIMCHI65\_2.mp4, OLDCOMPUTERS128\_2.mp4, TYPEWRITERS19\_2.mp4, TYPEWRITERS28\_2.mp4. I didn’t check every single one, however. The interviewer is usually (always?) male sounding. REBECCA13\_2.mp4 is just ambient music.

A lot of them have interviewer speech

Some are non-verbal vocalizations

Every sample has a valence rating

Multiple ethnicities, NA English

I went back and manually labeled speaker IDs for this dataset too. No speaker appears in more than one split folder. There are supposed to be 21 unique speakers per split folder

This took forever but was necessary in order not to leak speakers between splits

I tried my best but tbh I wasn’t always 100% sure

Fuzzy votes…

Perceived emotion neutral + perceived valence non-zero ::> unk, +/- 1 (perceived valence)

Perceived valence 0 + perceived emotion non-neutral ::> perceived emotion, +/- 1 (valence of perceived emotion)

Basically, records were discarded only if the valence of a perceived emotion w/ unambiguous valence is cross-aligned with the perceived valence. Unaligned (but not cross aligned) records were aligned.

# Emotional\_EMA

From readme…

‘’’

This Electromagnetic Articulography (EMA) database includes articulatory motions recorded by an EMA system.

Talkers produced simulated (acted) emotional speech.

A set of 10 sentences was commonly used for speech recording of a male (AB) and two females (JN, LS), who are native speakers of American English.

On top of the 10 sentences, there are 4 additional sentences used for recording by only AB.

Each sentence was produced five times for four different emotions, such as neutrality, anger, sadness and happiness.

In totol, AB produced 280 utterances (14 sentences x 5 repetitions x 4 emotions), and JR and JN produced 200 utterances (10 sentences x 5 repetitions x 4 emotions).

Each utterance was digitalized in 12-bit amplitude resolution with 16kHz sampling rate.

Speech was recorded simultaneously by the EMA system so that speech and corresponding articulatory movements are aligned in time.

‘’’

Created valence\_scores\_per\_sample from DocumentationEma.txt

In DocumentationEma.txt, there were two filenames misspelled:

|  |  |  |
| --- | --- | --- |
| 4EMO\_~43.WAV | = | 4emo\_ls\_angry\_41\_041.wav |
| 4EMO\_~86.WAV | = | 4emo\_ls\_happy\_32\_032.wav |

For the emotion category votes, each sample obtained a majority vote for one category (3/4 or 4/4 votes). All of these matched the intended emotion. These were from the best\_xxx\_files.txt files.

Samples were also rated on valence separately (different evaluators). These ratings didn’t always match the valence of the intended emotion. I kept the samples where either the majority valence vote (if present) or the average valence rating matched the valence of the intended emotion. I allowed both criteria to increase the number of samples retained. 32 samples were discarded because of perceived-intended mismatch.

The best\_xxx\_files.txt files do not contain all the files listed in DocumentationEma.txt! The leftovers were assessed by valence only.

Discarded 58

# EmoV-DB\_sorted

Belgian French and North American English

elicitation prompts based on CMU Arctic (en) and SIWIS (fr)

The download link I got only has 4 out of the 5 speakers mentioned in the paper.

The French speaker is missing, so all samples are English…

# enterface\_db

“46 subjects were invited to react to six different situations, each of them eliciting one of the following emotions: happiness, sadness, surprise, anger, disgust and fear.”

“Two human experts decided whether or not the subject had expressed itself in such a way that an untrained human observer could without ambiguity recognize the emotion present in the reaction, for each of the emotions to be elicited. In a post-processing step, samples in which the emotion was not clearly recognized were discarded, so that the database would only contain video samples carrying relevant affective information. In this postprocessing step, decision was made to remove 4 subjects whose none of the video samples carried a believable affective message”

“The final version of the database thus contains 42 subjects, coming from 14 different nationalities.”

“Among the 42 subjects, a percentage of 81% were men, while the remaining 19% were women.”

“The recordings lasted for two weeks. All the experiments were driven in English. Each subject was told to listen to six successive short stories, each of them eliciting a particular emotion. They had then to react to each of the situations and two human experts judged whether the reaction expressed the emotion in an unambiguous way. If this was the case, the sample was added to the database. If not, it was discarded”

“Eventually, the database consists of a total of 1166 video sequences. Out of these 1166 video sequences, 264 concern women recordings (23%) and 902 men recordings (77%).”

Some of these .avi files are quite long, over 1.5 min. in some cases; there may need to be a downstream check

File Naming anomalies for some of subject 3 and subject 11 and subject 6

Subject 11 files are mislabeled as subject 12 files

Subject 11 and 12 and both male speakers

I labeled the speaker genders myself.

# Emotional Speech Dataset

English and Mandarin Chinese

“The dataset consists of 350 parallel utterances with an average duration of 2.9 seconds spoken by 10 native English and 10 native Mandarin speakers. For each language, the dataset consists of 5 male and 5 female speakers in five emotions summarized as follows: 1) happy, 2) sad, 3) neutral, 4) angry, and 5) surprise. Speech data are sampled at 16 kHz and saved in 16 bits.”

I manually labeled speaker gender

Speakers 1-10 are mandarin speakers, 11-20 are English speakers

As a native speaker of both languages, it really sounds like PRC Mandarin and US English to me

# EYASE

“In this work, an Egyptian Arabic speech emotion database is pre- sented that includes four different emotions: angry, happy, neutral and sad. The introduced database includes a total of 579 speech utterances for 3 male and 3 female subjects”

“In this work, an Egyptian Arabic semi-natural emotion speech database is created from the award winning Egyptian drama series Hatha Al-Masaa ( ) ( “Hatha Almasaa ”). Four basic emotions were considered in the introduced Egyptian Arabic speech emotion (EYASE) database: angry (A), happy (H), neutral (N) and sad (S). The EYASE database was recorded for three male and three female lead professional actors. At the time of filming, the actors were within the age range from 22 to 45 years old and had between 12 and 22 years of professional experience, with the exception of the youngest female actor who had about six years of acting experience. Initially, sound clips were recorded and labelled based on visual, audio and story narrative as well as on the depicted actor emotion.”

“In this work, a semi-natural Egyptian Arabic speech emotion (EYASE) database was introduced that includes 579 utterances from 3 male and 3 female pro- fessional actors for the angry, happy, neutral and sad emotions.”

# jl-corpus

New Zealand English

“…the speech was recorded from 4 speakers. All the speakers (two male and two female) were trained voice actors (two current broadcasters, one broadcasting tutor and one broadcasting trainee) of New Zealand English”

“The speech signal was sampled at 44.1kHz and stored as 16-bit numbers.”

“In total, there are 4 (speakers) × 5 (primary emotions) × 2 (repetitions) × 15 (sentences) × 2 (sessions) = 1200 primary emotion sentences and 4 (speakers) × 5 (secondary emotions) × 2 (repetitions) × (13 (emotion neutral sentences) + 2 (emotion salient sentences)) × 2 (sessions) = 1200 secondary emotion sentences, making a total of 2400 sentences, with a footprint of 520 MB.”

I only have access to the “unchecked and unannotated” raws. So the emotion code is the intended emotion

Default sample rate: 44100Hz

Encoding: 16 bit PCM

Chanel: Mono

Format: WAV

File naming rule: (Gender)(speaker.ID)\_(Emotion)\_(Sentence.ID)(session.ID)

Chart

Description automatically generated

No valence provided for encouraging, concerned, or assertive 🡪 discard

There actually aren’t any samples labeled as enthusiastic or pensive, so that isn’t helpful

# LEGOv2

All the audio files from 20061122 look funny; not sure if they are usable

Some of these audio clips are very short, not enough room for a full utterance or even a word

Abstract “Data from the Let’s Go Bus Information System from the Carnegie Mellon University in Pittsburgh has been formatted, parameterized and annotated with quality, emotion, and task success labels containing 347 dialogs with 9,083 system-user exchanges.”

Text

Description automatically generated

“We further introduce the negative emotional state of the user that is manually annotated by a human rater who chooses one of the labels garbage, non-angry, slightly angry, very angry for each single user turn. From all 4,832 user turns, 68.5% were non-angry, 14.3% slightly angry, 5.0% very angry and 12.2% contained garbage, i.e., non-speech events.”

The “neutral” labels are really labels for “non-angry”. Therefore, the valence of these is ambiguous. We will have to discard these.

I keep the slightly and very angry samples as angry samples: 797 angry samples

# MELD

Data are clips from *Friends*

This dataset allows for negative surprise and positive surprise. What the authors describe here as sentiment closely matches the idea of valence.