Aff-Wild2

Data:

The videos can be found here and here.
These links contain the training, validation and test videos for all Challenges-Tracks.
The corresponding cropped images for the above videos can be found here and here.
The corresponding cropped and aligned images for the above videos can be found here.
All cropped-aligned images have the same dimensions: 112 x 112 x 3.

Annotations:

The annotation files for the training and validation videos for all Challenges can be found here. In this link you will find four folders named: VA_Estimation_Challenge, EXPR_Classification_Challenge, AU_Detection_Challenge and MTL_Challenge.

1) VA_Estimation_Challenge:

It consists of two sub-folders named: Train_Set, Validation_Set, which contain the training and validation annotation files used in this Challenge. Each annotation file is named after the video that it corresponds to.

The first line of each annotation file is always:

valence,arousal

Each line thereafter shows the comma separated valence and arousal values that correspond to each videoframe, i.e., the first valence-arousal values correspond to the first videoframe, the second valence-arousal values correspond to the second videoframe and so on.

Note that valence and arousal take values in the range: [-1,1]. For some frames, valence and/or arousal can take the value -5; such frames should be disregarded.

2) EXPR_Classification_Challenge:

It consists of two sub-folders named: Train_Set, Validation_Set, which contain the training and validation annotation files used in this Challenge. Each annotation file is named after the video that it corresponds to.

The first line of each annotation file is always:

Neutral,Anger,Disgust,Fear,Happiness,Sadness,Surprise,Other

Each line thereafter shows one annotation value in: {0,1,2,3,4,5,6,7}; these values correspond to the emotions: {Neutral,Anger,Disgust,Fear,Happiness,Sadness,Surprise,Other}. Each value corresponds to each videoframe, i.e., the first value corresponds to the first videoframe, the second one corresponds to the second videoframe and so on.

For some frames, the annotation value can be -1; such frames should be disregarded.

3) AU_Detection_Challenge:

It consists of two sub-folders named: Train_Set, Validation_Set, which contain the training and validation annotation files used in this Challenge. Each annotation file is named after the video that it corresponds to.

The first line of each annotation file is always:

AU1,AU2,AU4,AU6,AU7,AU10,AU12,AU15,AU23,AU24,AU25,AU26

Each line thereafter shows the comma separated AU annotation values for each videoframe. Each AU annotation value can be 0 (denoting non-activation of the specific AU) or 1 (denoting activation of the specific AU). In some cases, AU annotation values can be -1; these should be disregarded.

4) MTL_Challenge:

It consists of files named: train_set.txt, validation_set.txt.

The first line of each annotation file is always:

image,valence,arousal,expression,aus

Each line thereafter is in the format:

video/frame,valence_value,arousal_value,expression_value,AU1_value,…,AU26_value

Valence-arousal values range in [-1,1]; expression values are in {0,1,2,3,4,5,6,7}; AU values are in {0,1}. As explained previously in the other Challenges, annotation values of -5 for valence/arousal, -1 for expressions, -1 for AUs should not be taken into account.

Notes:

There exist some videos (eg., 30-30-1920x1080.mp4) in which two subjects exist and react to what they see, etc. Both subjects have been annotated and the corresponding annotation files are distinguished with the endings/extensions '_left' and '_right'. For instance, for video named 30-30-1920x1080.mp4 the two annotation files are 30-30-1920x1080_left.txt and 30-30-1920x1080_right.txt (corresponding to the left and right persons respectively; in all these videos, people have the same order, meaning that the one person is always on the left and the other person is always on the right).
A special mention for videos named: 10-60-1280x720.mp4; video59.mp4; video2.mp4. These videos have the annotation files named: 10-60-1280x720.txt and 10-60-1280x720_right.txt; video59.txt and video59_right.txt; video2.txt and video2_left.txt. These videos contain one main subject; for small durations of time the camera is showing another person (coming from the left or right side), who is annotated with the ending/extension '_left' or '_right'.

References:

If you use the above data, you must cite all below papers and the white paper (that will be distributed at a later stage to the participants) that will describe the ABAW Competition, the data used and the baseline networks and results:

- **D. Kollias, S. Zafeiriou: "Analysing Affective Behavior in the second ABAW2 Competition". ICCV, 2021**

@inproceedings{kollias2021analysing, title={Analysing affective behavior in the second abaw2 competition}, author={Kollias, Dimitrios and Zafeiriou, Stefanos}, booktitle={Proceedings of the IEEE/CVF International Conference on Computer Vision}, pages={3652--3660}, year={2021}}

- **D. Kollias, et. al.: "Analysing Affective Behavior in the First ABAW 2020 Competition". IEEE FG, 2020**

@inproceedings{kollias2020analysing, title={Analysing Affective Behavior in the First ABAW 2020 Competition}, author={Kollias, D and Schulc, A and Hajiyev, E and Zafeiriou, S}, booktitle={2020 15th IEEE International Conference on Automatic Face and Gesture Recognition (FG 2020)(FG)}, pages={794--800}}

- **D. Kollias, et. al.: "Distribution Matching for Heterogeneous Multi-Task Learning: a Large-scale Face Study", 2021**

@article{kollias2021distribution, title={Distribution Matching for Heterogeneous Multi-Task Learning: a Large-scale Face Study}, author={Kollias, Dimitrios and Sharmanska, Viktoriia and Zafeiriou, Stefanos}, journal={arXiv preprint arXiv:2105.03790}, year={2021} }

- **D. Kollias, S. Zafeiriou: "Affect Analysis in-the-wild: Valence-Arousal, Expressions, Action Units and a Unified Framework, 2021**

@article{kollias2021affect, title={Affect Analysis in-the-wild: Valence-Arousal, Expressions, Action Units and a Unified Framework}, author={Kollias, Dimitrios and Zafeiriou, Stefanos}, journal={arXiv preprint arXiv:2103.15792}, year={2021}}

- **D. Kollias, S. Zafeiriou: "Expression, Affect, Action Unit Recognition: Aff-Wild2, Multi-Task Learning and ArcFace". BMVC, 2019**

@article{kollias2019expression, title={Expression, Affect, Action Unit Recognition: Aff-Wild2, Multi-Task Learning and ArcFace}, author={Kollias, Dimitrios and Zafeiriou, Stefanos}, journal={arXiv preprint arXiv:1910.04855}, year={2019} }

- **D. Kollias, et at.: "Face Behavior a la carte: Expressions, Affect and Action Units in a Single Network", 2019**

@article{kollias2019face,title={Face Behavior a la carte: Expressions, Affect and Action Units in a Single Network}, author={Kollias, Dimitrios and Sharmanska, Viktoriia and Zafeiriou, Stefanos}, journal={arXiv preprint arXiv:1910.11111}, year={2019}}

- **D. Kollias, et. al.: "Deep Affect Prediction in-the-wild: Aff-Wild Database and Challenge, Deep Architectures, and Beyond". International Journal of Computer Vision (IJCV), 2019**

@article{kollias2019deep, title={Deep affect prediction in-the-wild: Aff-wild database and challenge, deep architectures, and beyond}, author={Kollias, Dimitrios and Tzirakis, Panagiotis and Nicolaou, Mihalis A and Papaioannou, Athanasios and Zhao, Guoying and Schuller, Bj{\"o}rn and Kotsia, Irene and Zafeiriou, Stefanos}, journal={International Journal of Computer Vision}, pages={1--23}, year={2019}, publisher={Springer} }

- **S. Zafeiriou, et. al. "Aff-Wild: Valence and Arousal in-the-wild Challenge". CVPRW, 2017**

@inproceedings{zafeiriou2017aff, title={Aff-wild: Valence and arousal 'in-the-wild'challenge}, author={Zafeiriou, Stefanos and Kollias, Dimitrios and Nicolaou, Mihalis A and Papaioannou, Athanasios and Zhao, Guoying and Kotsia, Irene}, booktitle={Computer Vision and Pattern Recognition Workshops (CVPRW), 2017 IEEE Conference on}, pages={1980--1987}, year={2017}, organization={IEEE} }