Representative publications:

Shan Li, Weihong Deng, and JunPing Du. "Reliable crowdsourcing and deep locality-preserving learning for expression recognition in the wild." In *Proceedings of the IEEE conference on computer vision and pattern recognition*, pp. 2852-2861. 2017.

Representative citations:

1) **Tingwen Huang**, IEEE Fellow and member of the European Academy of Sciences, in her paper published in TNSE 2021, commented that our proposed database brings **new challenges** for face expression recognition。

Auto-FERNet: A Facial Expression Recognition Network With Architecture Search

Shiqian Li, Wei Li, Shiping Wen, *Senior Member, IEEE*, Kaibo Shi, Yin Yang, Pan Zhou, and Tingwen Huang, *Fellow, IEEE*

However, recently, some wild facial expression datasets have been proposed, such as RAF-DB [6], [7], ExpW [8], Emotio-Net [9] and AffectNet [10], which bring new challenges to FER. Those images in the wild datasets are collected from

[6] S. Li, W. Deng, and J. Du, "Reliable crowdsourcing and deep locality-preserving learning for expression recognition in the wild," in *Proc. IEEE Conf. Comput. Vis. Pattern Recognit.*, 2017, pp. 2584–2593.
[7] S. Li and W. Deng, "Reliable crowdsourcing and deep locality-preserving learning for unconstrained facial expression recognition," *IEEE Trans. Image Process.*, vol. 28, no. 1, pp. 356–370, Jan. 2019.

2) David Zhang, Member of the Royal Canadian Academy of Sciences, Member of the Canadian Academy of Engineering, IEEE Fellow, and Professor at the Chinese University of Hong Kong (Shenzhen), commented in his paper published in TCSVT 2021 that our proposed local hold loss is more **flexible** when the class conditional distribution is multimodal.。

Learning Informative and Discriminative Features for Facial Expression Recognition in the Wild

Yingjian Li, Yao Lu, Bingzhi Chen, Zheng Zhang, *Senior Member, IEEE*, Jinxing Li, Guangming Lu, *Member, IEEE*, and David Zhang, *Life Fellow, IEEE*

Similarly, Li *et al.* [17] proposed the Locality Preserving (LP) loss as well as the RAF-DB dataset. With the help of the softmax loss, such loss can maximize the inter-class scatters and preserve the locality closeness. Compared with the center loss, the center for LP loss is calculated by k nearest neighbors instead of all samples. LP loss is more flexible when the class conditional distribution is multi-modal. Li *et al.* [41] promoted

[17] S. Li, W. Deng, and J. Du, "Reliable crowdsourcing and deep locality-preserving learning for expression recognition in the wild," in *Proc. IEEE Conf. Comput. Vis. Pattern Recognit. (CVPR)*, Jul. 2017, pp. 2852–2861.

3) Xinbo Gao, IET/IEE Fellow and professor at Chongqing University of Posts and Telecommunications, cited our work consecutively in his papers published in TIP 2021 and CVPR 2022 (representative paper 1), stating that our proposed RAF-DB database **greatly promotes/ greatly facilitates** deep expression recognition research, and evaluates that our local hold loss can learn **more discriminative** features.

Towards Semi-Supervised Deep Facial Expression Recognition with An Adaptive Confidence Margin

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puters understand visual emotion. Recently, the advancement of deep FER is largely promoted by large-scale labeled datasets, *e.g.*, RAF-DB [16] and AffectNet [22].

rior performance. Right from the beginning, Li *et al.* [16] proposed a locality preserving loss to learn more discriminative facial expression features. Inspired by the atten-

[16] Shan Li and Weihong Deng. Reliable crowdsourcing and deep locality-preserving learning for unconstrained facial expression recognition. *IEEE Transactions on Image Processing*, 28(1):356–370, 2019. 1, 2, 6, 7

4) **Fei-Yue Wang**, IEEE Fellow and researcher at the Institute of Automation, Chinese Academy of Sciences, commented in his paper published in TCDS 2021 that our RAF-DB database **facilitates** the development of facial emotion computing.

Relation-Aware Facial Expression Recognition

Yifan Xia, Hui Yu, *Senior Member, IEEE,* Xiao Wang, Muwei Jian, Fei-Yue Wang, *Fellow, IEEE*

limitations of hand-crafted features. Moreover, the advent of large in-the-wild annotated databases of facial images further facilitates the development of the facial affective computing field, such as AffectNet [9] and RAF-DB [10], [11].

[11] Li, Shan, and Weihong Deng. "Reliable Crowdsourcing and Deep Locality-Preserving Learning for Unconstrained Facial Expression Recognition." IEEE Transactions on Image Processing 28 (2019): 356-370.