

1. Position constraint loss for fashion landmark estimation

Accession number: 20203909217062

Authors: Liu, Hong (1); Song, Meijia (1); Shi, Wei (1); Li, Xia (1)

Author affiliation: (1) Key Laboratory of Machine Perception, Peking University, Shenzhen Graduate School, China

Source title: ICASSP, IEEE International Conference on Acoustics, Speech and Signal Processing - Proceedings

Abbreviated source title: ICASSP IEEE Int Conf Acoust Speech Signal Process Proc

Volume: 2020-May

Part number: 1 of 1

Issue title: 2020 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2020 - Proceedings

Issue date: May 2020

Publication year: 2020

Pages: 1868-1872

Article number: 9054508

Language: English

ISSN: 15206149

CODEN: IPRODJ

ISBN-13: 9781509066315

Document type: Conference article (CA)

Conference name: 2020 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2020

Conference date: May 4, 2020 - May 8, 2020

Conference location: Barcelona, Spain

Conference code: 161907

Sponsor: The Institute of Electrical and Electronics Engineers, Signal Processing Society

Publisher: Institute of Electrical and Electronics Engineers Inc., United States

Abstract: Fashion landmark estimation aims at locating functional key points of clothes, which has wide potential applications in electronic commerce. However, due to the occlusion and weak outline information, landmark estimation occurs outliers and duplicate detection problems. To alleviate these issues, we propose Position Constraint Loss (PCLoss) to constrain error landmark locations by utilizing the position relationship of landmarks. Specifically, PCLoss adds a regularization term for each landmark to regularize their relative positions, and it can be easily applied to both regression and heatmap based methods without extra computation during inference. Unlike existing approaches that propagate landmark information between feature layers by specific network structures, PCLoss introduces position relations of landmarks in the label space without modifying the network structure. In addition, we leverage the skeleton-like relation of clothing to further strengthen position constraints between landmarks. Extensive experimental results on DeepFashion, FLD and FashionAI demonstrate that our methods can effectively increase the performance of mainstream frameworks by a large margin. © 2020 IEEE

Number of references: 30

Main heading: Audio signal processing

Controlled terms: Network layers - Speech communication

Uncontrolled terms: Constraint loss - Duplicate detection - Extra computations - Landmark locations - Large margins - Network structures - Regularization terms - Relative positions

Classification code: 716.1 Information Theory and Signal Processing - 723 Computer Software, Data Handling and Applications - 751.5 Speech

DOI: 10.1109/ICASSP40776.2020.9054508

Funding Details: Number: 61673030, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;

Number: -, Acronym: NSFC, Sponsor: National Natural Science Foundation of China;

Funding text: This work is supported by National Natural Science Foundation of China (NSFC, U1613209, No.61673030).

Compendex references: YES

Database: Compendex

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Data Provider: Engineering Village