Dongkai Wang

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Research Interests

My research interests primarily include computer vision and machine learning. Specifically, I am interested in building human-aware AI systems that can perceive and understand human beings, including:

- Human Pose and Shape Estimation
- Person Re-identification

Education

Peking University 2019-Present
Ph.D. Student, Computer Science
Advisor: Prof. Shiliang Zhang

University of Electronic Science and Technology of China 2015-2019
B.S., Electronic Information Engineering

Publication

Journal Articles

- Contextual Instance Decoupling for Instance-Level Human Analysis
  Dongkai Wang, Shiliang Zhang
  IEEE Transactions on Pattern Analysis and Machine Intelligence. **TPAMI** 2023.
- Unsupervised Person Re-identification via Multi-label Classification
  Dongkai Wang, Shiliang Zhang
  International Journal of Computer Vision. **IJCV** 2022.
- Deep Learning Based 2D Human Pose Estimation: Present and Future
  Jianing Li*, **Dongkai Wang***, Shiliang Zhang (∗ indicates equal contribution)
  Chinese Journal of Computers. **CJC** 2024.

Conference Articles

- LocLLM: Exploiting Generalizable Human Keypoint Localization via Large Language Model
  Dongkai Wang, Shiyu Xuan and Shiliang Zhang
  Conference on Computer Vision and Pattern Recognition. **CVPR** 2024.
- Spatial-Aware Regression for Keypoint Localization
  Dongkai Wang, Shiliang Zhang
  Conference on Computer Vision and Pattern Recognition. **CVPR** 2024.

- 3D Human Mesh Recovery with Sequentially Global Rotation Estimation
  Dongkai Wang, Shiliang Zhang
  International Conference on Computer Vision. **ICCV** 2023.
- Contextual Instance Decoupling for Robust Multi-Person Pose Estimation
  Dongkai Wang, Shiliang Zhang
  Conference on Computer Vision and Pattern Recognition. **CVPR** 2022. **Oral Presentation**
- Robust Pose Estimation in Crowded Scenes with Direct Pose-Level Inference
  Dongkai Wang, Shiliang Zhang, Gang Hua
  Conference on Neural Information Processing Systems. **NeurIPS** 2021.
- Unsupervised Person Re-identification via Multi-label Classification
  Dongkai Wang, Shiliang Zhang
  Conference on Computer Vision and Pattern Recognition. **CVPR** 2020. **Oral Presentation**
- HumVis: Human-Centric Visual Analysis System
  Dongkai Wang, Shiliang Zhang, Yaowei Wang, Yonghong Tian, Tiejun Huang, Wen Gao
  ACM International Conference on Multimedia. **ACM MM** 2023.

Submission Articles

- ADPose: A Human Perception Dataset for Autonomous Driving on Crowded Urban Streets
  Dongkai Wang, Feiyang Cheng, Chao Yang, Wei Zheng and Shiliang Zhang
  European Conference on Computer Vision. **ECCV Submission** 2024.

Services

- Reviewer of ICCV, CVPR, ECCV, AAAI, VCIP, etc.
- Reviewer of TIP, TOMM, IET computer vision, CVIU etc.
- Academic talk: "Visual Perception for Human in an Open World", CCIG 2023
- Academic talk: "Person Re-Identification: Recent Advances and Challenges", ICME 2021.
- Teaching assistant: Data Structure and Algorithms, Peking University.

Patent

- Method and System for Person Re-identification
  US patent, US11182602B2
- Method and System for Person Re-identification
  CN patent, ZL202010269718.6

Honors and Awards

- National Scholarship 2023

- Peking University Exceptional Award for Academic Innovation 2023
- Peking University Merit Student Pacesetter 2023
- Peking University Merit Student 2022
- Peking University UBIQUANT Scholarship 2022
- Peking University NERCVT Merit Student 2020,2022
- National Scholarship 2017,2018
- Mathematical Contest In Modeling, Meritorious Winner 2018
- ACM-ICPC China Invitational Contest, Silver Medal 2017
- ACM-ICPC Asia Regional Contest, Bronze Medal 2016

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