Kai Zhao

Postdoctoral Researcher @UCLA

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Brief

I am a postdoctoral researcher at UCLA, specializing in AI for medical image analysis, with a focus on the intersection of computer vision, graphics, and machine learning. I have co-authored over 20 publications in top-tier conferences and journals, including CVPR, ICCV, ECCV, NeurIPS, and TPAMI, with over 4,000 Google Scholar citations. My research on palmprint recognition was featured by MIT Technology Review Review[1].

Education

- **Nankai University**   **Tianjin, China**
  College of Computer Science and Control Engineering, Ph.D Computer Science   *Sep 2017 – June 2020*

- **Shanghai University**   **Shanghai, China**
  School of Communication and Information Engineering, M.S   *Sep 2014 – June 2017*

- **Shanghai University**   **Shanghai, China**
  School of Communication and Information Engineering, B.S   *Sep 2010 – June 2014*

Industrial Experiences

- **University of California, Los Angeles**   **Los Angeles, USA**
  Senior Research Scientist   *Nov 2020 ∼ March 2022*

- **Tencent Youtu Lab**   **Shanghai, China**
  Senior Research Scientist   *Nov 2020 ∼ March 2022*

- **Panasonic Research Develop Center Singapore**   **Singapore**
  Research Intern   *Sep 2018 – Dec 2018*
  Developing algorithms for automatical scene classification.

- **Tencent Youtu Lab**   **Shanghai, China**
  Research Intern   *March 2016 – June 2016*
  Developing algorithms for user images categorization. Specifically, we train multi-label classifiers using the earch mover's distance as loss functions.

Core Technical Skills

Theory: Information theory, Statistics, Optimization, Machine learning, Neural networks.
Programming: C, C++, CUDA, LaTeX, Python, Linux.
Language: English: professional fluent; Chinese-simplified (native).

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[1] https://www.technologyreview.com/2022/11/15/1063218/whats-next-biometrics-palm-print-recognition-tencent-we-chat-pay/

Publications

[1] **Kai Zhao**, Lei Shen, Yingyi Zhang, Ruixin Zhang, Shouhong Ding, Wei Jia, Wei Shen. "BezierPalm3D: Synthetical Pretraining for Palmprint Authentication" (Submitted to International Journal of Computer Vision)

[2] **Kai Zhao**, Kaifeng Pang, Alex Ling Yu Hung, Haoxin Zheng, Ran Yan, Kyunghyun Sung. "MRI Super-Resolution with Partial Diffusion Models". (IEEE Transaction on Medical Imaging, accept with minor revision)

[3] **Kai Zhao**, Lei Shen, Yingyi Zhang, Chuhan Zhou, Tao Wang, Ruixin Zhang, Shouhong Ding, Wei Jia, Wei Shen. "BézierPalm: A Free lunch for Palmprint Recognition" ECCV 2022.

[4] Lei Shen, Yingyi Zhang, **Kai Zhao***, Ruixin Zhang, Wei Shen "Distribution Alignment for Cross-device Palmprint Recognition." Pattern Recognition 2022. ***** Corresponding author.

[5] Wang, Xuehui, **Kai Zhao**, Ruixin Zhang, Shouhong Ding, Yan Wang, and Wei Shen. "Contrastmask: Contrastive learning to segment every thing." In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition, pp. 11604-11613. 2022.

[6] **Kai Zhao**, Xuehui Wang, Xingyu Chen, Ruixin Zhang, Wei Shen "Rethinking Mask Heads for Partially Supervised Instance Segmentation." Neurocomputing 2022

[7] **Kai Zhao***, Qi Han*, Chang-bin Zhang, Jun Xu, Mingg-Ming Cheng. "Deep Hough Transform for Semantic Line Detection." (TPAMI 2021, ESI highly-cited paper)

[8] **Kai Zhao**, Shanghua Gao, Wenguan Wang, Ming-Ming Cheng. "Optimizing the F-measure for Threshold-free Salient Object Detection." International conference on computer vision (ICCV), Seoul, Korea, 2019.

[9] **Kai Zhao**, Jingyi Xu, Ming-Ming Cheng. "RegularFace: Deep Face Recognition via Exclusive Regularization." IEEE conference on Computer Vision and Patterm Recognition (CVPR), Long Beach, USA, 2019.

[10] **Kai Zhao**, Wei Shen, Shanghua Gao, Dandan Li, Ming-Ming Cheng. "Hi-Fi: Hierarchical Feature Integration for Skeleton Detection." International Joint Conference on Artificial Intelligence (IJCAI), Stockholm, Sweden, 2018.

[11] Wei Shen, **Kai Zhao**, Yilu Guo, Alan Yuille. "Label Distribution Learning Forests." Proceedings of advances in neural information processing systems(NIPS), Long Beach, USA, 2017.

[12] Wei Shen, **Kai Zhao**, Yuan Jiang, Yan Wang, Xiang Bai, Alan Yuille. "DeepSkeleton: Learning Multi-task Scale-associated Deep Side Outputs for Object Skeleton Extraction in Natural Images." (IEEE Trans on Image Processing, 2017)

[13] Wei Shen, **Kai Zhao**, Yuan Jiang, Yan Wang, Zhijiang Zhang, Xiang Bai. "Object Skeleton Extraction in Natural Images by Fusing Scale-associated Deep Side Outputs." Proceddings of the 29th IEEE Conference on Computer Vision and Pattern Recognition(CVPR), Las Vegas, USA, 2016.

* Wei Shen is my master's advisor.

See http://kaizhao.net/ for full publication list.