Wentao Jiang

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Education

- **Beihang University** — Beijing, China
  Ph.D. in Artificial Intelligence, supervised by Prof. Si Liu — *Sep. 2020 - June 2024 (Expected)*
- **National University of Singapore** — Singapore
  Visiting Ph.D. student at SoC, supervised by Prof. Gim Hee Lee — *Feb. 2023 - Aug. 2023*
- **Beihang University** — Beijing, China
  M.Phil. in Computer Science, supervised by Prof. Si Liu — *Sep. 2019 - June 2020*
- **Harbin Engineering University** — Harbin, China
  B.Eng. in Software Engineering; GPA: 91/100 (Top 2%) — *Sep. 2015 - June 2019*

Selected Publications

- Wentao Jiang, Hao Xiang, Xinyu Cai, Runsheng Xu, Jiaqi Ma, Yikang Li, Gim Hee Lee, Si Liu, "**Optimizing the Placement of Roadside LiDARs for Autonomous Driving**", *in submission*
- Xinyu Cai*, Wentao Jiang*, Runsheng Xu, Wenquan Zhao, Jiaqi Ma, Si Liu, Yikang Li, "**Analyzing Infrastructure LiDAR Placement with Realistic LiDAR Simulation Library**", *IEEE International Conference on Robotics and Automation (ICRA)* 2022
- Wentao Jiang, Sheng Jin, Wentao Liu, Chen Qian, Ping Luo, Si Liu, "**PoseTrans: A Simple Yet Effective Pose Transformation Augmentation for Human Pose Estimation**", *European Conference on Computer Vision (ECCV)* 2022
- Wentao Jiang, Ning Xu, Jiayun Wang, Chen Gao, Jing Shi, Zhe Lin, Si Liu, "**Language-Guided Global Image Editing via Cross-Modal Cyclic Mechanism**", *IEEE International Conference on Computer Vision (ICCV)* 2021
- Si Liu, Wentao Jiang, Chen Gao, Ran He, Jiashi Feng, Bo Li, Shuicheng Yan, "**PSGAN++: Robust Detail-Preserving Makeup Transfer and Removal**",*IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)* 2021
- Wentao Jiang, Si Liu, Chen Gao, Ran He, Bo Li, and Shuicheng Yan, "**Beautify As You Like**", *ACM International Conference on Multimedia (ACM MM)* 2020, Demo Paper
- Wentao Jiang, Si Liu, Chen Gao, Jie Cao, Ran He, Jiashi Feng, Shuicheng Yan, "**PSGAN: Pose and Expression Robust Spatial-Aware GAN for Customizable Makeup Transfer**", *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* 2020, Oral Presentation
- Defa Zhu, Si Liu, Wentao Jiang, Chen Gao, Tianyi Wu, Qiangchang Wang, Guodong Guo, "**UGAN: Untraceable GAN for Multi-Domain Face Translation**", *arXiv preprint arXiv:1907.11418, 2019*

Experience

- **National University of Singapore** — Singapore
  Research Intern, work with Prof. Gim Hee Lee — *Jan. 2023 - Present*
  - Proposed a perceptual gain based greedy algorithm (submitted to *ICCV* 2023) that obtains approximate optimal solutions for roadside LiDAR placement optimization. Introduced a novel perception predictor that can quickly obtain the perceptual gain by predicting the perception ability of a LiDAR placement.
- **Shanghai AI Laboratory** — Beijing, China
  Research Intern, work with Dr. Yikang Li — *May 2022 - Mar. 2023*
  - Worked on Vehicle-to-Everything (V2X) cooperative perception and infrastructure LiDAR placement problem.
  - Proposed a simulation library and toolkit (*ICRA* 2023) to evaluate different infrastructure LiDAR placements, which facilitates its applications in the real-world environment.
- **SenseTime Research** — Beijing, China
  Research Intern, work with Mr. Sheng Jin — *July 2021 - Mar. 2022*
  - Studied the data augmentation method for 2D human pose estimation. The method improves the pose estimation accuracy by approximately 1.0 AP in the MS-COCO dataset without increasing the training time.
  - Proposed a data augmentation method, termed PoseTrans (*ECCV* 2022). A Pose Transformation Module (PTM) is devised to perform affine transformations on human limbs to obtain new poses and increase the diversity of training samples. A Pose Clustering Module (PCM) is adopted to cluster human pose and a long-tailed distribution is observed for the dataset. PCM is used to determine the rarity of human poses and combined with the PTM to generate more long-tailed poses to further improve accuracy.
- **Adobe Research** — Beijing, China (Remote)
  Collaborative Researcher, work with Dr. Ning Xu and Dr. Zhe Lin — *Sep. 2020 - Mar. 2021*

- Explored a new task: automaticly edit photos via linguistic requests (e.g., "Increase the brightness a lot")
- Proposed CAGAN (*ICCV* 2021) with a newly designed cross-modal cyclic mechanism and augmentation strategy for language-guided global image editing, which mitigates the problem of insufficient and unbalanced data. we also proposed a new metric (RSS) to evaluate the performance of editing, which uses a speaker model to redescribe the input-output image pair.

- **SenseTime Research** Beijing, China
  Research Intern, work with Dr. Wayne Wu *June 2020 - Sep. 2020*
  - Worked on robust makeup transfer algorithm for high-resolution images, aiming at bringing makeup transfer method to mobile apps. Collected a high-resolution dataset for makeup transfer.

- **Beihang University** Beijing, China
  Research Assistant, supervised by Prof. Si Liu *Aug. 2018 - present*
  - Worked on conditional image synthesis tasks, including makeup transfer and image-to-image translation
  - Proposed PSGAN (*CVPR* 2020 Oral) to achieve shade-controllable, partial, and robust makeup transfer. It utilizes Makeup Distill Network to disentangle the makeup of the reference image as two spatial-aware makeup matrices. An Attentive Makeup Morphing module is introduced to specify how the makeup of a pixel in the source image is morphed from the reference image. My Github Repo receive over **610** stars and **125** forks.
  - Proposed PSGAN++ (*TPAMI* 2021), which is capable of performing both detail-preserving makeup transfer and effective makeup removal. A Loss function for detail-preserving (highlights and blush) makeup transfer is also proposed.

Honors and Awards

- **National Scholarship (Top 1%)**, Ministry of Education of the People's Republic of China, 2021
- **Outstanding Freshman Scholarship for PhD Student (Top 5%)**, Beihang University, 2020
- **Outstanding Freshman Scholarship for Master Student (Top 5%)**, Beihang University, 2019
- **Outstanding Graduates (Top 2%)**, Harbin Engineering University, 2019
- **Merit Student (Top 1%)**, Heilongjiang Province, 2019
- **National Scholarship (Top 1%)**, Ministry of Education of the People's Republic of China, 2017
- **Silver Medal**, ACM-International Collegiate Programming Contest (ICPC) Asia Regional Contest, 2017
- **Silver Medal** × **3**, China Collegiate Programming Contest (CCPC) Regional Contest, 2016 - 2017