Hai Jiang
Sichuan University
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Google Scholar
GitHub Profile

Education

•Ph.D. - Sichuan University *2023-present*
Aeronautical and Astronautical Science and Technology Supervisor: Prof. Songchen Han

•Master - Sichuan University *2020-2023*
Aeronautical and Astronautical Science and Technology Supervisor: Prof. Songchen Han

•Bachelor - Sichuan University *2016-2020*
Aircraft Control and Information Engineering Supervisor: Prof. Songchen Han

Professional Experiences

•Research Inter - Megvii Technology *Jan. 2022-present*
Research area: Homograph Estimation and Low-Light Image Enahncement Supervisor: Prof. Shuaicheng Liu

Achievements

- •Youth Talents Support Project-Doctoral Student Special Program *Jan. 2025*
- •National Scholarship *Nov. 2024*
- •Outstanding Master's Thesis of Sichuan University *Jun. 2023*
- •First Prize of China Aerospace Foundation-Romax Technology Aerospace Scholarship *Oct. 2022*
- •Third Prize of Undergraduate Graduation Design (Thesis) of Sichuan University *Jun. 2020*

Publications-Journal

•∗: Equal contributions, †: Corresponding author

[1]. Ailin Ma*, **Hai Jiang***, Binbin Liang†, Songchen Han. "Incorporating Fourier Transformation with Diffusion Models for Low-Light Image Enhancement". IEEE Signal Processing Letters **(SPL)**, 2025. [PDF]

[2]. **Hai Jiang**, Yang Ren, Songchen Han†. "Revisiting Coarse-to-fine Strategy for Low-Light Image Enhancement with Deep Decomposition Guided Training". Computer Vision and Image Understanding **(CVIU)**, 2024. [PDF] [GitHub]

[3]. Haipeng Li, **Hai Jiang**, Ao Luo, Ping Tan, Haoqiang Fan, Bing Zeng, Shuaicheng Liu†. "DMHomo: Learning Homography with Diffusion Models". ACM Transactions on Graphics **(ToG, Presented at SIGGRAPH)**, 2024. [PDF] [GitHub]

[4]. **Hai Jiang**, Ao Luo, Haoqiang Fan, Songchen Han, Shuaicheng Liu†. "Low-Light Image Enhancement with Wavelet-based Diffusion Models". ACM Transactions on Graphics **(ToG, Proceedings of SIGGRAPH Asia)**, 2023. [PDF] [GitHub]

[5]. Shuaicheng Liu†, Yuhang Lu, **Hai Jiang**, Nianjin Ye, Chuang Wang, Bing Zeng. "Unsupervised Global and Local Homography Estimation with Motion Basis Learning". IEEE Transactions on Pattern Analysis and Machine Intelligence **(TPAMI)**, 2023. [PDF] [GitHub]

[6]. **Hai Jiang**, Xuan Zhu, Yang Ren, Yutong Hao, Fengzhu Zou, Lin Fang, Songchen Han†. "R2RNet: Low-Light Image Enhancement via Real-low to Real-normal Network". Journal of Visual Communication and Image Representation **(JVCIR)**, 2023. [PDF] [GitHub] **(Best Paper Runner-Up for 2024, ESI Highly Cited Paper)**

[7]. **Hai Jiang**, Yutong Hao, Fengzhu Zou, Lin Fang, Songchen Han†. "Advanced RetinexNet: A Fully Convolutional Network for Low-light Image Enhancement". Signal Processing: Image Communication **(SPIC)**, 2023. [PDF]

[8]. **Hai Jiang**, Yang Ren, Yaqi Yu, Songchen Han†. "Combining Spatial and Frequency Information for Image Deblurring". IEEE Signal Processing Letters **(SPL)**, 2022. [PDF]

[9]. **Hai Jiang**, Yutong Hao, Fengzhu Zou, Lin Fang, Songchen Han†. "A Visual Navigation System for UAV Under Diverse Illumination Conditions". Applied Artificial Intelligence **(UAAI)**, 2021. [PDF]

Publications-Conference

•∗: Equal contributions, †: Corresponding author

[1]. **Hai Jiang**∗, Binhao Guan∗, Zhen Liu, Xiaohong Liu, Jian Yu, Zheng Liu, Songchen Han, Shuaicheng Liu†. "Learning to See in the Extremely Dark". International Conference on Computer Vision **(ICCV)**, 2025. [PDF] [GitHub]

[2]. Yang Ren∗, **Hai Jiang**∗, Menglong Yang, Wei Li, Shuaicheng Liu†. "ISPDiffuser: Learning RAW-to-sRGB Mappings with Texture-Aware Diffusion Models and Histogram-Guided Color Consistency". Thirty-Ninth AAAI Conference on Artificial Intelligence **(AAAI)**, 2025. [PDF] [GitHub]

[3]. **Hai Jiang**, Ao Luo, Xiaohong Liu, Songchen Han, Shuaicheng Liu†. "LightenDiffusion: Unsupervised Low-Light Image Enhancement with Latent-Retinex Diffusion Models". European Conference on Computer Vision **(ECCV)**, 2024. [PDF] [GitHub]

[4]. **Hai Jiang**∗, Haipeng Li∗, Songchen Han†, Haoqiang Fan, Bing Zeng, Shuaicheng Liu†. "Supervised Homography Learning with Realistic Dataset Generation". International Conference on Computer Vision **(ICCV)**, 2023. [PDF] [GitHub]

[5]. **Hai Jiang**∗, Haipeng Li∗, Yuhang Lu, Songchen Han†, Shuaicheng Liu†. "Semi-supervised Deep Large-Baseline Homography Estimation with Progressive Equivalence Constraint". Thirty-Seventh AAAI Conference on Artificial Intelligence **(AAAI)**, 2023. [PDF] [GitHub]

Academic Services

•**Conference Reviewer:** IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), IEEE International Conference on Computer Vision (**ICCV**), European Conference on Computer Vision (**ECCV**), ACM SIGGRAPH Annual Conference (**SIGGRAPH**), AAAI Conference on Artificial Intelligence (**AAAI**), ACM International Conference on Multimedia (**ACM MM**), IEEE International Conference on Multimedia and Expo (**ICME**), IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS**).

•**Journal Reviewer:** IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**), International Journal of Computer Vision (**IJCV**), IEEE Transactions on Image Processing (**TIP**), IEEE Transactions on Circuits and Systems for Video Technology (**TCSVT**), IEEE Transactions on Neural Networks and Learning Systems (**TNNLS**), IEEE Signal Processing Letters (**SPL**), Computer Vision and Image Understanding (**CVIU**), Science China Information Sciences (**SCIS**), Computers & Graphics (**CG**), Image and Vision Computing (**IVC**).

Technical Skills

Languages: CET-4, CET-6
Skills: Office, Python, Matlab, LaTex