HENG GUO

(086)18582521993 | heng.guo@ist.osaka-u.ac.jp | Google Scholar |

Homepage

EXPERIENCE

Specially-Appointed Researcher — Beijing, China
School of Artificial Intelligence, Beijing University of Posts and Telecommunications — *Nov. 2023 – present*

Specially-Appointed Assistant Professor — Osaka, Japan
Osaka University — *May. 2022 – Oct. 2023*

Research Assistant — Osaka, Japan
Osaka University — *Oct. 2018 – Apr. 2022*

Research Intern — Yokohama, Japan
Japan Institute of Oppo Mobile Telecommunications Corp., Ltd — *June 2020 – Oct. 2020*

Research Intern — Beijing, China
AI Lab of Qihoo 360 Technology Corp., Ltd. — *June 2016 – Jan. 2017*

EDUCATION

University of Electronic Science and Technology of China (UESTC) — Chengdu, China
Bachelor of Electronic Engineer — *Aug. 2015 – Sep. 2011*

University of Electronic Science and Technology of China (UESTC) — Chengdu, China
Master of Signal Processing | Supervisors: Bing Zeng, Shuaicheng Liu — *Aug. 2018 – Sep. 2015*

Osaka University — Osaka, Japan
Doctor of Computer Science | Supervisors: Yasuyuki Matsushita, Boxin Shi — *Present – Sep. 2018*

PUBLICATION

(∗ Equal contribution, † Corresponding author.)

[1] Mingzhi Pei, Xu Cao, Xiangyi Wang, **Heng Guo**†, Zhanyu Ma. "PMNI: Pose-free Multi-view Normal Integration for Reflective and Textureless Surface Reconstruction." IEEE Conference on Computer Vision and Pattern Recognition. (**CVPR 2025**).

[2] Shuangfan Zhou, Chu Zhou, Youwei Lyu, **Heng Guo**†, Zhanyu Ma, Boxin Shi, Imari Sato. "PIDSR: Complementary Polarized Image Demosaicing and Super-Resolution." IEEE Conference on Computer Vision and Pattern Recognition. (**CVPR 2025**).

[3] Mengqiu Xu, Kaixin Chen, **Heng Guo**, Yixiang Huang, Ming Wu, Zhenwei Shi, Chuang Zhang, Jun Guo. "MFogHub: Bridging Multi-Regional and Multi-Satellite Data for Global Marine Fog Detection and Forecasting." IEEE Conference on Computer Vision and Pattern Recognition. (**CVPR 2025**).

[4] Youwei Lyu∗, **Heng Guo**∗, Kailong Zhang, Si Li, Boxin Shi. "SfPUEL: Shape from Polarization under Unknown Environment." Annual Conference on Neural Information Processing Systems. (**NeurIPS 2024**).

[5] Li Wenjie, **Heng Guo**†, Xuannan Liu, Kongming Liang, Jiani Hu, Zhanyu Ma, Jun Guo. "Efficient Face Super-Resolution via Wavelet-Based Feature Enhancement Network." ACM International Conference on Multimedia. (**ACM MM 2024**).

[6] **Heng Guo**∗, Jieji Ren∗, Feishi Wang∗, Boxin Shi, Mingjun Ren, Yasuyuki Matsushita. "DiLiGenRT: A Photometric Stereo Dataset with Quantified Roughness and Translucency." IEEE Conference on Computer Vision and Pattern Recognition. (**CVPR 2024**).

[7] Yufei Han, **Heng Guo**†, Koki Fukai, Hiroaki Santo, Boxin Shi, Fumio Okura, Zhanyu Ma, Yunpeng Jia. "NeRSP: Neural 3D Reconstruction for Reflective Objects with Sparse Polarized Images." IEEE Conference on Computer Vision and Pattern Recognition. (**CVPR 2024**).

[8] Feishi Wang∗, Jieji Ren∗, **Heng Guo**∗, Mingjun Ren, Boxin Shi. "DiLiGenT-Pi: Photometric Stereo for Planar Surfaces with Rich Details – Benchmark Dataset and Beyond." International Conference on Computer Vision. (**ICCV 2023**).

[9] Jun Hoong Chan, Bohan Yu, **Heng Guo**, Jieji Ren, Zongqing Lu, Boxin Shi. "ReLeaPS: Reinforcement Learning-based Illumination Planning for Generalized Photometric Stereo." International Conference on Computer Vision. (**ICCV 2023**).

[10] Jipeng Lv, **Heng Guo**[†], Guanying Chen, Jinxiu Liang, Boxin Shi. "Non-Lambertian Multispectral Photometric Stereo via Spectral Reflectance Decomposition." International Joint Conferences on Artificial Intelligence (**IJCAI 2023**).

[11] **Heng Guo**, Boxin Shi, Yasuyuki Matsushita. "Neural BRDF Plugin for Unsupervised Photometric Stereo." IEEE International Conference on Network Intelligence and Digital Content (**IC-NIDC 2023 best paper**).

[12] Feiran Li*, **Heng Guo***, Hiroaki Santo, Fumio Okura, Yasuyuki Matsushita. "Learning to Synthesize Photorealistic Dual-pixel Images from RGBD frames." International Conference on Computational Photography (**ICCP 2023**).

[13] Lilika Makabe, **Heng Guo**, Hiroaki Santo, Fumio Okura, Yasuyuki Matsushita. "Near-light Photometric Stereo with Symmetric Lights." International Conference on Computational Photography. (**ICCP 2023**).

[14] **Heng Guo**, Fumio Okura, Boxin Shi, Takuya Funatomi, Yasuhiro Mukaigawa, Yasuyuki Matsushita. "Multispectral Photometric Stereo for Spatially-Varying Spectral Reflectances." International Journal of Computer Vision. (**IJCV 2022**).

[15] **Heng Guo***, Zhipeng Mo*, Boxin Shi, Feng Lu, Sai-Kit Yeung, Ping Tan, Yasuyuki Matsushita. "Patch-based Uncalibrated Photometric Stereo under Natural Illumination." IEEE Transactions on Pattern Analysis and Machine Intelligence. (**TPAMI 2021**).

[16] **Heng Guo**, Fumio Okura, Boxin Shi, Takuya Funatomi, Yasuhiro Mukaigawa, Yasuyuki Matsushita. "Multispectral Photometric Stereo for Spatially-Varying Spectral Reflectances: A Well-posed Problem?" IEEE Conference on Computer Vision and Pattern Recognition. (**CVPR 2021**).

[17] **Heng Guo**, Boxin Shi, Michael Waechter, Yasuyuki Matsushita. "Self-calibrating Near-light Photometric Stereo under Anisotropic Light Emission." Meeting on Image Recognition and Understanding (**MIRU 2020 outstanding paper**).

[18] **Heng Guo**, Shuaicheng Liu, Shuyuan Zhu, Heng Tao Shen, Bing Zeng. "View-Consistent MeshFlow for Stereoscopic Video Stabilization." IEEE Transactions on Computational Imaging. (**TCI 2018**).

[19] **Heng Guo**, Shuaicheng Liu, Tong He, Shuyuan Zhu, Bing Zeng, Moncef Gabbouj. "Joint Video Stitching and Stabilization from Moving Cameras." IEEE Transactions on Image Processing (**TIP 2016**).

[20] **Heng Guo**, Shuaicheng Liu, Shuyuan Zhu, Bing Zeng. "Joint Bundled Camera Paths for Stereoscopic Video Stabilization." International Conference on Image Processing. (**ICIP 2016**) (Oral).

HONORS

Excellent Master Thesis of UESTC (Top 3%)	June 2018
Excellent Postgraduate of UESTC (Top 6%))	June 2018
National Scholarship of China(Top 2%))	Oct. 2017
Academic Scholarship of UESTC (Top 10%)	2015 & 2016 & 2017
Excellent Graduate of UESTC (Top 7%)	Sep. 2015
The 1st Prize of National College Student Information Security Contest	July 2014
The 2nd Prize of National Undergraduate Electronics Design Contest	Sep. 2013
People's Scholarship (Top 15%)	2011 & 2012 & 2013

SERVICE

- Reviewer: TPAMI, IJCV, TNNLS, CVPR, ICCV, ECCV, NeurIPS