Curriculum Vitae

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Jun Zhang, PhD

Education

2016.11 – 2021.05	**Ph.D.** at College of Engineering and Computer Science, Australian National University (**ANU**)	Canberra
2008.09 - 2015.04	**B.Sc. (E.E.)** and **M.Sc. (Engineering)**, School of Aeronautics, Northwestern Polytechnical University (**NPU**)	Xi'an

Work Experience

2023.12 – Present	**Senior Post-doc Researcher, Institute of Visual Computing, TU Graz** Advisor: Prof. Friedrich Fraundorfer Projects: Aerial Visual Localization and Mapping (SLAM), Event-based 3D Vision.	Graz
2021.11 – 2023.11	**Post-doctoral Researcher, SMaRC & RPL @ EECS, KTH** Advisors: Prof. John Folkesson, Prof. Patric Jensfelt Projects: AUV Localization and Mapping, Neural Rendering and SLAM.	Stockholm
2016.11 – 2021.05	**Ph.D. Researcher, Australian Centre for Robotic and Vision (ACRV) @ ANU** Advisors: Dr. Viorela Ila, Dr. Laurent Kneip, Prof. Robert Mahony Projects: Visual Odometry/SLAM in Underwater and Dynamic Scenes.	Canberra
2014.05 - 2015.09	**Research Assistant, Wangxuan Institute of Computer Technology, PKU** Advisor: A/Prof. Zouhui Lian Project: Mesh Segmentation and Non-rigid 3D Shape Retrieval.	Beijing

Awards

2021-2023	Post-Doctoral Fellow Research Funding, RPL, SMaRC, KTH.
2016-2020	PhD Scholarship and University Research Scholarship, ANU.
2012-2015	Second Prize of the National Scholarship, NPU.

Mentoring

2024-present, Event-based Visual Localization, Kuangyi Chen/Runze Yuan (Ph.D. Project, TU Graz);
2023-present, Neural-based Multi-view Stereo and 3D Reconstruction, Yuxi Hu (Ph.D. Project, TU Graz);
2021-2023, AUV Localization and Bathymetry Reconstruction from Side-scan Sonar and Multi-beam Sensors, Yiping Xie/Li Ling (Ph.D. Project, SMaRC, KTH);
2022-2023, Efficient and Global Consistent Neural Representation for SLAM, Leonard Bruns (Ph.D. Project, RPL, KTH);
2025, Event Image Representation for Visual Localization, Vinayak Lal (Master Seminar Project, TU Graz);
2023, Canonical Image Representation for Side-scan Sonar, Weiqi Xu (Master Thesis, SMaRC, KTH);
2020, Equivariant Visual Odometry, Ryan Pike (Honor Bachelor Project, ANU);

Publications

[1] Yuxi Hu, **Jun Zhang**, Kuangyi Chen, Zhe Zhang and Friedrich Fraundorfer, "C^3-GS: Learning Context-aware, Cross-dimension, Cross-scale Feature for Generalizable Gaussian Splatting", The 36th British Machine Vision Conference (**BMVC**), 2025.

[2] Yuxi Hu, **Jun Zhang**, Zhe Zhang, Rafael Weilharter, Yuchen Rao, Kuangyi Chen, Runze Yuan and Friedrich Fraundorfer, "ICG-MVSNET: Learning Intra-view and Cross-view Relationship for Guidance in Multi-View Stereo", IEEE International Conference on Multimedia and Expo (**ICME**), 2025.

[3] Leonard Bruns, **Jun Zhang** and Patric Jensfelt, "Neural Graph Mapping for Dense SLAM with Efficient Loop Closure Integration", IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV**), 2025.

[4] Kuangyi Chen, **Jun Zhang** and Friedrich Fraundorfer, "EVLoc: Event-based Visual Localization in LiDAR Maps via Event-Depth Registration", IEEE International Conference on Robotics and Automation (**ICRA**), 2025.

[5] Jiangteng Shi, **Jun Zhang**, Yujing Chen and Jia Ren, "Optimal Fault-tolerant Control for Tugboats Robust Path Following

in Nearshore", IEEE International Conference on Robotics and Automation (**ICRA**), 2025.

[6] **Jun Zhang**, Yiping Xie, Li Ling and John Folkesson, "A Dense Subframe-based SLAM Framework with Side-scan Sonar", IEEE Journal of Ocean Engineering (**JOE**), 2024.

[7] Yiping Xie, **Jun Zhang**, Nils Bore and John Folkesson, "NeuRSS: Enhancing AUV Localization and Bathymetric Mapping with Neural Rendering for Sidescan SLAM", IEEE Journal of Ocean Engineering (**JOE**), 2024.

[8] **Jun Zhang**, Yiping Xie, Li Ling and John Folkesson, "A Fully-automatic Side-scan Sonar Simultaneous Localization and Mapping Framework", IET Radar, Sonar & Navigation (**RSN**), 2024.

[9] Li Ling, **Jun Zhang**, Nils Bore, John Folkesson and Anna Wåhlin, "Benchmarking Classical and Learning-based Multibeam Point Cloud Registration", IEEE International Conference on Robotics and Automation (**ICRA**), 2024.

[10] Weiqi Xu, Li Ling, Yiping Xie, **Jun Zhang** and John Folkesson, "Evaluation of a Canonical Image Representation for Side-scan Sonar", IEEE **Oceans**-Limerick, 2023.

[11] **Jun Zhang**, Mina Henein, Robert Mahony and Viorela Ila, "VDO-SLAM: A Visual Dynamic Object-aware SLAM System", Arxiv:2005.11052, 2020.

[12] Robert Mahony, Pieter Van Goor, Mina Henein, Pike Ryan, **Jun Zhang** and Yonhon Ng, "Equivariant Visual Odometry in the Wild", The 59th IEEE Conference on Decision and Control (**CDC**), 2020.

[13] **Jun Zhang**, Mina Henein, Robert Mahony and Viorela Ila, "Robust Ego and Object 6-DoF Motion Estimation and Tracking", IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS**), 2020.

[14] Mina Henein, **Jun Zhang**, Robert Mahony and Viorela Ila, "Dynamic SLAM: The Need for Speed", IEEE International Conference on Robotics and Automation (**ICRA**), 2020.

[15] **Jun Zhang** and Viorela Ila, "Multi-frame Motion Segmentation for Dynamic Scene Modelling", The 20th Australasian Conference on Robotics and Automation (**ACRA**), 2018.

[16] **Jun Zhang**, Viorela Ila and Laurent Kneip, "Robust Visual Odometry in Underwater Environment", MTS/IEEE **Oceans**-Kobe, 2018.

[17] **Jun Zhang**, Zhouhui Lian, Zhenbao Liu and Jianguo Xiao, "CEFM: A Heuristic Mesh Segmentation Method based on Convexity Estimation and Fast Marching", Proceedings of the 10th International Conference on Computer Graphics Theory and Applications (**CGTA**), 2015.

[18] Zhouhui Lian, **Jun Zhang** and et. al, "SHREC'15 Track: Non-rigid 3D Shape Retrieval", **EuroGraphics** Workshop on 3D Object Retrieval, 2015.

Skills

Programming Language/Software/tools: C/C++, Python, Matlab, ROS, Pytorch, Meshlab, 3DMax, Geomagic, OpenCV.
Experienced Areas: visual/sonar perception, location and mapping (SLAM), structure from motion, multi-view geometry, 3D vision, image processing, Markov random fields, probabilistic graphic models, back-end optimization, neural rendering.
Language Skills: English (proficient), Mandarin (native), Hainanese (native), Swedish (basic) and German (basic).

Teaching Duty

Teaching assistant: Mathematical Principle in Vision and Graphics (2024 Summer Semester, TU Graz).
Partial lecture responsibility in the Robot Vision (2024-present SS) and Camera Drones (2024-present WS) (TU Graz).

Academic Activities

Reviewer for conferences and journals:

- Conference: ICRA (20-26), IROS (20-25), ICCV (25), BMVC (25), CVPR (26);
- Journal: RAL, TRO, IJRR, AURO, TASE, TIP;

Editorial Duty:

- IEEE Robotics and Automation Letters (as Associate Editor, 2025-);

Invited Talk:

- The 59th Photogrammetric, Stuttgart, 04/2025;
- RPL, KTH, Stockholm, 12/2021;
- MIS, UPJV, Amiens, 08/2024;
- ACFR, UniSyd, Sydney, 12/2019;

Summer School:

- Robotic Vision, 2017, Kioloa, Australia;
- Computer Graphics, 2013, Hangzhou, China;