

Yejun Zhang

+358 50 472 0577
✉ yejun.zhang@aalto.fi
Google Scholar

Research Interests

3D Reconstruction & Generation, Visual Localization

Education

- 04.2024 – **Doctoral Student in Computer Science**, *Aalto University*, Finland
present Supervisors: Prof. Juho Kannala, Prof. Esa Rahtu
- 08.2021 – **Master's Degree**, *Aalto University*, Finland
11.2023 Automation and Electrical Engineering
- 08.2015 – **Bachelor's Degree**, *Northwestern Polytechnical University*, China
06.2019 Measurement and Control Technology & Instrument

Publications

- 2026 **GeoMix: Descriptor-Free Visual Localization via Global Context and Multi-Detector Training**
Yejun Zhang, Xinjue Wang, Zihan Wang, Esa Rahtu, Juho Kannala
Proposed a descriptor-free visual localization framework with directional-distance geometry embeddings, global context nodes, and multi-detector training. Achieved state-of-the-art results among descriptor-free methods on four benchmarks with zero-shot generalization to unseen detectors.
Under review
- 2025 **SplatGuide: Geometric Priors from 3D Gaussians for Pose-Free Novel View Synthesis**
Yejun Zhang*, Zihan Wang*, Xu Ji*, Yihao Wang, Yuxin Hou, Junyuan Fang, Juho-Matti Kilpeläinen, Arno Solin, Hamed Rezazadegan Tavakoli, Esa Rahtu, Juho Kannala
Proposed a pose-free novel view synthesis framework that reuses a single 3DGS scene for rendered geometric conditioning, occlusion-aware view selection, and feature-level cross-attention guidance to a multi-view diffusion model. Achieved state-of-the-art pose-free NVS on four benchmarks, surpassing even the ground-truth-pose baseline.
Under review
- 2024 **A2-GNN: Angle-Annular GNN for Visual Descriptor-free Camera Relocalization**
Yejun Zhang, Shuzhe Wang, Juho Kannala
Proposed a descriptor-free visual localization method using annular neighbor clustering with distance and angle embeddings in a graph neural network to learn robust geometric structural representations. Achieved state-of-the-art descriptor-free results on Cambridge Landmarks and 7Scenes.
International Conference on 3D Vision (3DV) 2025

Skills

Programming Python, C, SQL, PyTorch, OpenCV, LoRA/PEFT
Tools Git, Linux, $\text{\LaTeX}$