Xiangyue Liu

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EDUCATION

Beihang University (University of 985 Project) **Beijing, China**
Master of Software Engineering *Score: 84.94/100, Jun 2021*
Northeast Normal University (University of 211 Project) **Changchun, China**
Bachelor of Software Engineering *Score: 82.57/100, Jun 2018*

KEY SKILLS

- Research Interest: Neural Implicit Representation, 3D Reconstruction, SLAM
- Programming: C++, Python, Matlab
- Deep Learning: PyTorch, PyTorch Lightning, TensorFlow
- Tools: Latex, g2o, Ceres, Eigen, OpenCV

PUBLICATIONS

Sobolev Training for Implicit Neural Representations with Approximated Image Derivatives *Under Review 2022*
Wentao Yuan, Qingtian Zhu, **Xiangyue Liu**, Yikang Ding, Haotian Zhang, Chi Zhang

KD-MVS: Knowledge Distillation Based Self-supervised Learning for Multi-view Stereo *Under Review 2022*
Yikang Ding, Qingtian Zhu, **Xiangyue Liu**, Wentao Yuan, Haotian Zhang, Chi Zhang

TransMVSNet: Global Context-aware Multi-view Stereo Network with Transformers *CVPR 2022*
Yikang Ding*, Wentao Yuan*, Qingtian Zhu, Haotian Zhang,
Xiangyue Liu, Yuanjiang Wang, Xiao Liu

Structure Reconstruction Using Ray-Point-Ray Features: Representation and Camera Pose Estimation *ICRA 2021*
Yijia He*, **Xiangyue Liu***, Xiao Liu, Ji Zhao (* Equal Contribution)

2nd Place Solution to Instance Segmentation of IJCAI 3D AI Challenge 2020 *IJCAI 2020 Workshop*
Kai Jiang*, **Xiangyue Liu***, Zheng Ju*, Xiang Luo (* Equal Contribution)

An Optimization Algorithm of Baseline Density Distribution for An Ultra-long Wave Astronomical Observation Array *IAC 2020*
Jingwei Yang, Juntao Pu, Xinyi Fei, **Xiangyue Liu**, You Song, Li Deng

EXPERIENCE

National Space Science Center **Beijing, China**
○ *Research Group Member* *Sept 2018 - Sept 2019*
- Reconstruct the sky map from under sampled inversion astronomical matrix by

using deep learning methods (conditional GANs).

MEGVII Research **Beijing, China**

- *SLAM Intern* *Aug 2019 - Apr 2020*
  - Develop new visual Simultaneous Localization and Mapping (SLAM) algorithm.
  - Build a ray-point-ray feature-based stereo visual odometry (VO) by C++.
- *3D Vision Intern* *Jun 2021 - Aug 2021*
  - Do research on Multi-view Stereo (MVS) with deep learning.

Tsinghua University **Beijing, China**

- *Visiting Student at IIIS* *Jul 2021 - Present*
  - Do the research about neural implicit representations.
  - Neural implicit surface reconstruction.

AWARDS AND ACHIEVEMENTS

- Second class scholarship of Northeast Normal University, Oct 2015
- National College Students Innovation and Entrepreneurship Training Program, Dec 2016
- Third class scholarship of Northeast Normal University, Nov 2017
- Third class scholarship of Northeast Normal University, Jun 2018
- Second class scholarship of Beihang University, Oct 2018
- First class scholarship of Beihang University, Oct 2019
- First class scholarship of Beihang University, Jun 2020
- 2nd Place in IJCAI-PRICAI 2020 3D AI Challenge: Instance Segmentation, Oct 2020
- Excellent graduate in Beijing, Jun 2021

ACTIVITES

- Oral presentation for the IJCAI-PRICAI 2020 3D AI workshop *Jan 2021*
- Outstanding student of visual SLAM class at Shenlan School *Aug 2019*
- Volunteer of the 2nd National SLAM Technology Forum *Jul 2019*
- League secretary in Software College at Beihang University *Sep 2018 - Jun 2021*
- Recreation and sports secretary in Software College at NENU *Sep 2015 - Jun 2018*