Zhuoye Ying

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Education

Shanghai Jiao Tong University — Shanghai, China
Bachelor and Master of Engineering, Electronic Information — *Sep. 2017 – Current*

ENSTA Paris — Paris, France
Master of Engineering, Information and Communication Technology — *Aug. 2020 – Aug. 2022*

Experience

Graduate Student Researcher — Sep. 2021 – Current
SPEIT, supervised by Hao Li — *Shanghai, China*

- Focused on Simultaneous Localization and Mapping with Moving Object Tracking.
- Developed a SLAMMOT architecture based on IMM algorithm. Implemented IMM technique to enhance the Moving Object Tracking module's adaptability in complex real-world dynamic scenarios. Introduced a tightly coupled graph optimization module that aligns seamlessly with IMM algorithms, facilitating jointly optimization results of Odometry module and Moving Object Tracking module.

  The resulting paper was published at T-IV 2023.

Graduate Student Researcher — May 2022 – Aug. 2022
SATIE, supervised by Nicolas Lerme — *gif-sur-Yvette, France*

- Focused on fresco reconstruction using CNN.
- Implemented and retrained SuperPoint network with generated fresco dataset. Proposed a fresco reconstruction architecture based on retrained SuperPoint feature extractor.

Algoritme Engineer Intern — Jun. 2023 – Dec. 2023
2012 Lab. Huawei — *Hangzhou, China*

- Focused on 3D Reconstruction and Novel View Synthesis using NeRF-based method
- 3D Reconstruction: Enhanced MonoSDF precision by incorporating semantic clues. Applied the Manhattan-world assumption to achieve smoother surface reconstruction. Implemented hash encoding and a proposal network to optimize and expedite the training process.
- Novel View Synthesis: Implemented a 3D Gaussian Splatting based architecture. Introduced a pose optimization module for improved input camera poses. Applied masked training techniques to eliminate undesired elements in original images.

Journal Pulibcations

[J0] Zhuoye Ying and Hao Li. "IMM-SLAMMOT : Tightly-Coupled SLAM and IMM-based Multi-Object Tracking". In: *IEEE Transactions on Intelligent Vehicles* (2023), pp. 1–11. DOI: 10.1109/TIV.2023.3346040.

Skills

Language:Native in Mandarin, Fluent in English and French
Programming: C/C++, C#, Python, Java, Linux Shell, ROS, Git, SQL, LaTex, MATLAB, Unity3D
Learning: PyTorch.
Miscellaneous: Basketball, Badminton, Chinese calligraphy

Selected Honors and Awards

Scholarship of China Scholarship Council — 2020-2022
Scholarship of SJTU Paris Elite Institute of Technology for excellent studies — 2019
The Second Prize of Jiao Tong Scholarship of Academic Excellence — 2017-2018