

Liyan Chen

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Education

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| • Stevens Institute of Technology (SIT) <i>Ph.D. in Computer Science</i> | Hoboken, NJ 01/2020 - Present |
| • Stevens Institute of Technology (SIT) <i>M.S. in Information and Data Engineering</i> | Hoboken, NJ 08/2017 - 05/2019 |
| • Renmin University of China (RUC) <i>B.A. in Mathematics</i> | Beijing, China 09/2012 - 07/2016 |

Research Interests

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| • Uncertainty Estimation | • Semantic Mapping | • Active Vision |
| • Multi-View 3D Reconstruction | • Robotic Perception | • Machine Learning |

Awards

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| • AWS Machine Learning Research Awards (Prize with Sergül Aydıre) | 08/2019 |
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Publications

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- **Understanding while Exploring: Semantics-driven Active Mapping**
Liyan Chen, Huangying Zhan, Hairong Yin, Yi Xu, Philippos Mordohai
Neurips 2025, San Diego, USA.
 - **ActiveGAMER: Active GAussian Mapping through Efficient Rendering**
Liyan Chen, Huangying Zhan, Kevin Chen, Xiangyu Xu, Qingan Yan, Changjiang Cai, Yi Xu
CVPR 2025, Nashville, USA.
 - **Learning the Distribution of Errors in Stereo Matching for Joint Disparity and Uncertainty Estimation**
Liyan Chen, Weihang Wang, Philippos Mordohai
CVPR 2023, Vancouver, Canada.
 - **DropCluster: A Structured Dropout for Convolutional Networks**
Liyan Chen, Philip Gautier, Sergül Aydıre
(Oral) Women in Machine Learning workshop in NeurIPS 2019, Vancouver, Canada.

Invited Talks

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- **Learning the Distribution of Errors in Stereo Matching for Joint Disparity and Uncertainty Estimation**
NYC Computer Vision Day 2025, New York, USA
 - **DropCluster: A Structured Dropout for Convolutional Networks**
Women in Machine Learning workshop in NeurIPS 2019, Vancouver, Canada

Professional Experiences

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| • InnoPeak Technology <i>Internship</i> <ul style="list-style-type: none">◦ Conducted collaborative research with other senior research staff and interns to design an advanced active mapping system for both geometric and photometric reconstruction. | Palo Alto, USA 05/2024 - 08/2025 |
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- **ANBOUND Research Center** Beijing, China
Internship 06/2016 - 10/2016
 - Carried out several consulting projects, including analysis of energy market data and automotive industry data, and advice on adjustments of petroleum product of our customer.
- **National Library of China** Beijing, China
Collaborating scholar 07/2015 - 05/2024
 - Established the first comprehensive database for ancient documents from the National Library and five university libraries, and developed a framework to digitize, recognize rare characters, auto-classify topics, and simplify access for research and preservation.
- **National Laboratory of Data Engineering and Knowledge Engineering (RUC)** Beijing, China
Research Assistant 08/2015 - 05/2016
 - Contributed to the Shandong Open Data Project, conducted research on the design of open data applications and sharing platforms.

Professional Services

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| <ul style="list-style-type: none"> • Teaching Assistant <ul style="list-style-type: none"> ◦ EE551 Python Programing ◦ CS383 Computer Organization and Programming ◦ CS558 Computer Vision ◦ CS559 Machine Learning • Seminar Organizer <ul style="list-style-type: none"> ◦ Advanced Machine Learning Seminar at SIT | <ul style="list-style-type: none"> • Reviewer <ul style="list-style-type: none"> ◦ CVPR 2024 ◦ ECCV 2024 ◦ CVPR 2025 ◦ ICRA 2026 • Workshop Facilitator <ul style="list-style-type: none"> ◦ WiML Un-Workshop at ICML 2021 |
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Open-Source Contributions

- **ActiveSGM: Semantics-driven Active Mapping**
 Official implementation of ActiveSGM published at Neurips 2025.
- **ActiveGAMER: Active GAussian Mapping through Efficient Rendering**
 Official implementation of ActiveGAMER published at CVPR 2024, internship project done with OPPO Research.
- **SEDNet: Stereo Error Matching Network**
 Official implementation of SEDNet with GwcNet backbone published at CVPR 2023.
- **FLAML: A Fast Library for Automated Machine Learning & Tuning**
 Contribute to designing the pipeline for automatic hyperparameter tuning in knowledge distillation using Transformer-based architectures.

References

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| <ul style="list-style-type: none"> • Dr. Philippos Mordohai Professor Department of Computer Science Stevens Institute of Technology Email: pmordoha@stevens.edu | <ul style="list-style-type: none"> • Dr. Enrique Dunn Associate Professor Department of Computer Science Stevens Institute of Technology Email: edunn@stevens.edu |
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- **Dr. Sergül Aydıno**
Senior Applied Scientist
Amazon AI
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- **Dr. Huangying Zhan**
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