

# Liyan Chen

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## Education

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

## Research Interests

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

## Awards

- AWS Machine Learning Research Awards (Prize with Sergül Aydöre) 08/2019

## Publications

- **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, Weihan Wang, Philippos Mordohai  
CVPR 2023, Vancouver, Canada.
- **DropCluster: A Structured Dropout for Convolutional Networks**  
Liyan Chen, Philip Gautier, Sergül Aydöre  
(Oral) Women in Machine Learning workshop in NeurIPS 2019, Vancouver, Canada.

## Invited Talks

- **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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| • <b>InnoPeak Technology</b><br><i>Internship</i>  | Palo Alto, USA<br>05/2024 - 08/2025 |
| ○ Conducted collaborative research with other senior research staff and interns to design an advanced active mapping system for both geometric and photometric reconstruction. |                                     |

- **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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- **Teaching Assistant**
  - EE551 Python Programming
  - CS383 Computer Organization and Programming
  - CS558 Computer Vision
  - CS559 Machine Learning
- **Seminar Organizer**
  - Advanced Machine Learning Seminar at SIT
- **Reviewer**
  - CVPR 2024
  - ECCV 2024
  - CVPR 2025
  - ICRA 2026
- **Workshop Facilitator**
  - WiML Un-Workshop at ICML 2021

## Open-Source Contributions

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- **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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- **Dr. Philippos Mordohai**  
Professor  
Department of Computer Science  
Stevens Institute of Technology  
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- **Dr. Enrique Dunn**  
Associate Professor  
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- **Dr. Sergül Aydöre**  
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Amazon AI  
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- **Dr. Huangying Zhan**  
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