Liyan Chen

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Education

- **Stevens Institute of Technology (SIT)** — Hoboken, NJ
  Ph.D. in Computer Science — *01/2020 - Present*
- **Stevens Institute of Technology (SIT)** — Hoboken, NJ
  M.S. in Information and Data Engineering — *08/2017 - 05/2019*
- **Renmin University of China (RUC)** — Beijing, China
  B.A. in Mathematics — *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

- **InnoPeak Technology** — Palo Alto, USA
  Internship — *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

- **Teaching Assistant**
  - EE551 Python Programing
  - 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

- **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

- **Dr. Philippos Mordohai**
  Professor
  Department of Computer Science
  Stevens Institute of Technology
  Email: pmordoha@stevens.edu
- **Dr. Kostas Daniilidis**
  Ruth Yalom Stone Professor
  Department of Computer and Information Science
  University of Pennsylvania
  Email: kostas@cis.upenn.edu

- **Dr. Enrique Dunn**
  Associate Professor
  Department of Computer Science
  Stevens Institute of Technology
  Email: edunn@stevens.edu

- **Dr. Sergül Aydöre**
  Senior Applied Scientist
  Amazon AI
  Amazon Web Services
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