## Jianglin (Johnny) Lu

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RESEARCH

Machine Learning, Computer Vision, Natural Language Processing, Generative Artificial Intelligence

Interests

EDUCATION Northeastern University, Boston, USA

Ph.D. Candidate in Computer Engineering

Advisor: Prof. Yun Raymond Fu

Last update: May 2025

Multimodal alignment, large language models, vision—language models, reinforcement learning

Industry Experience Amazon Web Services, Seattle, USA

May 2025—Now

Jan 2023 — Now

Mentors: Hongcheng Wang, Yuanwei Wu, Ziyi Zhao

Applied Scientist Intern: Developed an agentic system for complex image restoration by fine-tuning a **VLM** to identify degradations, employing an **LLM** for restoration planning, and training a reinforcement learning agent to optimize tool execution sequences.

Adobe Research, San Jose, USA

Sep 2024—Jan 2025

Mentors: Simon Jenni, Kushal Kafle, Handong Zhao, Jing Shi

Research Scientist Intern: Proposed a quality-controllable retrieval framework that trains an LLM for query refinement and integrates a VLM for text-image semantic matching, resulting in improved retrieval accuracy and higher-quality recommendations.

Tencent Music Entertainment, Shenzhen, China

Nov 2020—Apr 2021

Mentors: Kwok-Wai Hung, Simon Lui

Research Scientist Intern: Proposed an **efficient asymmetric hashing** approach for cross-modal and cross-domain image retrieval by learning an **adaptive bipartite graph** that models modality- and domain-level relationships, resulting in more accurate retrieval performance.

Invited

ACLab, Northeastern University, Boston, USA

26/02/2024

Talks

Content: Latent Graph Inference Invited by: Prof. Sarah Ostadabbas

Teaching No:

Northeastern University, Boston, USA

EECE7205 Fundamentals of Computer Engineering

Fall 2025

EECE5642 Data Visualization (Outstanding Teaching Award)

Spring 2025

DS5220 Supervised Machine Learning

Summer 2023, Spring 2024

PROFESSIONAL Reviewer for

SERVICES ICML, NeurIPS, ICLR, CVPR, ICCV, ECCV, AAAI, MM, KDD, ACL, EMNLP, AISTATS

IEEE Transactions on Pattern Analysis and Machine Intelligence

IEEE Transactions on Knowledge and Data Engineering

IEEE Transactions on Image Processing

IEEE Transactions on Neural Networks and Learning Systems

ACM Transactions on Knowledge Discovery from Data International Journal of Machine Learning and Cybernetics

Pattern Recognition, Neural Networks, Multimedia Tools and Applications Scientific Reports, Neurocomputing, Expert Systems With Applications

## SELECTED PUBLICATIONS

- 1. **Jianglin Lu**, Hailing Wang, Kuo Yang, Yitian Zhang, Simon Jenni, Yun Fu. The Indra Representation Hypothesis, Thirty-Ninth Conference on Neural Information Processing Systems (NeurIPS), 2025.
- Jianglin Lu, Yixuan Liu, Yitian Zhang, Yun Fu. Scale-Free Graph-Language Models, The Thirteenth International Conference on Learning Representations (ICLR), 2025.
- 3. **Jianglin Lu**, Hailing Wang, Yi Xu, Yizhou Wang, Kuo Yang, Yun Fu. Representation Potentials of Foundation Models for Multimodal Alignment: A Survey, The 2025 Conference on Empirical Methods in Natural Language Processing (EMNLP), 2025.
- 4. **Jianglin Lu**, Yi Xu, Huan Wang, Yue Bai, Yun Fu. Latent Graph Inference with Limited Supervision, Thirty-Seventh Conference on Neural Information Processing Systems (**NeurIPS**), 2023.
- Hailing Wang, Jianglin Lu, Yitian Zhang, Yun Fu. Outlier-Aware Post-Training Quantization for Image Super-Resolution, International Conference on Computer Vision (ICCV) Highlight, 2025.
- 6. Yixuan Liu, Abel Elekes, **Jianglin Lu**, Rodrigo Dorantes-Gilardi, Albert-Laszlo Barabasi. Unequal Scientific Recognition in the Age of LLMs, The 2025 Conference on Empirical Methods in Natural Language Processing (EMNLP Findings), 2025.
- 7. **Jianglin Lu**, Jie Zhou, Yudong Chen, Witold Pedrycz, Kwok-Wai Hung. Asymmetric Transfer Hashing with Adaptive Bipartite Graph Learning, IEEE Transactions on Cybernectics, 2023.
- 8. **Jianglin Lu**, Zhihui Lai, Hailing Wang, Yudong Chen, Jie Zhou, Linlin Shen. Generalized Embedding Regression: A Framework for Supervised Feature Extraction, IEEE Transactions on Neural Networks and Learning Systems, 2022.
- 9. Tao Wang, **Jianglin Lu**, Zhihui Lai, Jiajun Wen, Heng Kong. Uncertainty-Guided Pixel Contrastive Learning for Semi-Supervised Medical Image Segmentation, International Joint Conference on Artificial Intelligence (IJCAI), 2022.
- 10. **Jianglin Lu**, Hailing Wang, Jie Zhou, Mengfan Yan, Jiajun Wen. Deep Asymmetric Hashing with Dual Semantic Regression and Class Structure Quantization, Information Sciences, 2022.
- 11. **Jianglin Lu**, Hailing Wang, Jie Zhou, Yudong Chen, Zhihui Lai, Qinghua Hu. Low-Rank Adaptive Graph Embedding for Unsupervised Feature Extraction, Pattern Recognition, 2021.
- 12. Yudong Chen, Sen Wang, **Jianglin Lu**, Zhi Chen, Zheng Zhang, Zi Huang. Local Graph Convolutional Networks for Cross-Modal Hashing, ACM International Conference on Multimedia (ACM MM), 2021.
- 13. **Jianglin Lu**, Jingxu Lin, Zhihui Lai, Hailing Wang, Jie Zhou. Target Redirected Regression with Dynamic Neighborhood Structure, Information Sciences, 2021.
- 14. **Jianglin Lu**, Zhihui Lai, Jingxu Lin, Qinghong Lin, Jie Zhou. Label Self-Adaption Hashing for Image Retrieval, International Conference on Pattern Recognition (ICPR), 2020.

## Manuscripts under Review

- 1. **Jianglin Lu**, Simon Jenni, Kushal Kafle, Jing Shi, Handong Zhao, Yun Fu. Seeing Through Words: Controlling Visual Retrieval Quality with Language, The Fourteenth International Conference on Learning Representations (**ICLR**), 2026.
- 2. **Jianglin Lu**, Hailing Wang, Yixuan Liu, Kuo Yang, Yun Fu. Revisiting Degree Bias in Graphs, Twenty-Ninth Annual Conference on Artificial Intelligence and Statistics (AISTATS), 2026.

## Honors and Awards

Northeastern Outstanding PhD Teaching Award, 2025

ICCV Travel Award, 2025

ICLR Travel Award, 2025

NeurIPS Scholar Award, 2023

Northeastern PhD Network Travel Award, 2023

Top 10 Graduate Student of Shenzhen University, 2022

Second Prize of National Graduate Student Mathematical Modeling Competition, 2021 (Top 2%)

China National Scholarships, 2020 (1/400)

Special Scholarship of Shenzhen University for Recommended Graduate, 2019