

# Xintong Li

PH.D. STUDENT @ CS, UC, SAN DIEGO

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## EDUCATION

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### University of California, San Diego

PH.D. IN COMPUTER SCIENCE

Sep 2023 - Present

Advised by Prof. Jingbo Shang;

### University of Wisconsin, Madison

B.S. IN COMPUTER SCIENCE & DATA SCIENCE;

Sep 2019 - May 2023

Distinctive Scholastic Achievement; **GPA: 3.94/4**

## RESEARCH INTERESTS

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LLM Reasoning • Multimodal • Weak Supervision

My research focuses on efficient machine learning, with particular interest in LLM reasoning, multimodal optimization, and weak supervision. I am currently working on balancing different modalities in multimodal instruction tuning to improve performance and mitigate catastrophic forgetting. Additionally, I aim to enhance model reasoning capabilities through data-efficient methods. I am always eager to broaden the scope of machine learning methods toward the long tail of under-studied application fields.

## PAPERS & PRE-PRINTS

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\* Equal Contribution

- [6] OCEAN: Offline Chain-of-thought Evaluation and Alignment in Large Language Models  
Junda Wu\*, Xintong Li\*, Ruoyu Wang, Yu Xia, Yuxin Xiong, Jianing Wang, Tong Yu, Xiang Chen, Branislav Kveton, Lina Yao, Jingbo Shang, Julian McAuley  
*Preprint. arXiv:2410.23703*
- [5] Visual Prompting in Multimodal Large Language Models: A Survey  
Junda Wu, Zhehao Zhang, Yu Xia, Xintong Li, Zhaoyang Xia, Aaron Chang, Tong Yu, Sungchul Kim, Ryan A Rossi, Ruiyi Zhang, Subrata Mitra, Dimitris N Metaxas, Lina Yao, Jingbo Shang, Julian McAuley  
*Preprint. arXiv:2409.15310*
- [4] CoMMIT: Coordinated Instruction Tuning for Multimodal Large Language Models  
Junda Wu\*, Xintong Li\*, Tong Yu, Yu Wang, Xiang Chen, Jiuxiang Gu, Lina Yao, Jingbo Shang, Julian McAuley  
*Preprint. arXiv:2407.20454*
- [3] Open-world Multi-label Text Classification with Extremely Weak Supervision  
Xintong Li, Jinya Jiang, Jayanth Srinivasa, Gaowen Liu, Jingbo Shang  
*Conference on Empirical Methods in Natural Language Processing (EMNLP), 2024.*
- [2] Geometry-Aware Adaptation for Pretrained Models  
Nicholas Roberts, Xintong Li, Dyah Adila, Sonia Cromp, Tzu-Heng Huang, Jitian Zhao, Frederic Sala  
*Conference on Neural Information Processing Systems (NeurIPS), 2023.*
- [1] AutoWS-Bench-101: Benchmarking Automated Weak Supervision with 100 Labels  
Nicholas Roberts\*, Xintong Li\*, Tzu-Heng Huang, Dyah Adila, Spencer Schoenberg, Cheng-Yu Liu, Lauren Pick, Haotian Ma, Aws Albarghouthi, Frederic Sala  
*Conference on Neural Information Processing Systems (NeurIPS), 2022.*

## PROFESSIONAL EXPERIENCE

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## Amazon, Alexa AI

APPLIED SCIENTIST INTERN

Seattle, WA, USA  
Jun 2024 – Sep 2024

- Designed a multi-session conversation dataset with implicit reasoning to address complex QA tasks.
- Developed a memory-augmented framework that integrates all conversation history to enhance model persona and response accuracy.

## University of California, San Diego

GRADUATE STUDENT RESEARCHER (Advisor: Prof. Jingbo Shang)

San Diego, CA, USA  
Sep 2023 – Present

- Conducted research on efficient machine learning, including weak supervision, multimodal LLMs, and reinforcement learning.

## University of Wisconsin, Madison

UNDERGRADUATE RESEARCH ASSISTANT (Advisor: Prof. Jelena Diakonikolas)

Madison, WI, USA  
Feb 2022 – May 2023

- Used potential function-based framework to study the convergence of adaptive gradient descent methods.
- Extended to non-convex and local smoothness case to search for better convergence rates.

## University of Wisconsin, Madison

UNDERGRADUATE RESEARCH ASSISTANT (Advisor: Prof. Frederic Sala)

Madison, WI, USA  
Dec 2020 – May 2023

- Implemented plug-and-play combinations of feature representations and automatic label function generation and selection framework.
- Incorporated the geometric relationship of label spaces in order to learn in partially observed label spaces of extremely high cardinality.

## SELECTED HONORS & AWARDS

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2023-2024	UCSD Jacob School of Engineering Fellowship
2022	NeurIPS Scholar Award
2022	Wisconsin Science and Computing Emerging Research Stars (exploreCSR award)
2020-2022	UW–Madison Dean’s List

## LEADERSHIP & ACTIVITIES

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### Team Member

DATA SCIENCE RESEARCH GROUP

UW-Madison  
2021–2023

### Team Member

UW-MADISON SOCIETY OF WOMEN ENGINEERS

UW-Madison  
2021 – 2022

### Team Member

UNIVERSITY HOUSING

UW-Madison  
2020

## SERVICE & TECHNICAL SKILLS

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**Reviewer:** NeurIPS (2024), ICLR (2025), AISTATS (2025), NAACL (2025)

**Coursework:** Machine Learning, Deep Learning, Nonlinear Optimization, Algorithm, Natural Language Processing, Web Mining and Recommender Systems, Probabilistic Reason and Learning

**Tools:** Python, Java, C, C++, R, Pytorch, TensorFlow, SQL, JavaScript, Docker