

Xintong Li

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

☎ (+1) 608-949-4642 | ✉ xil240@ucsd.edu | 🏠 kaylee0501.github.io

EDUCATION

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

Natural Language Processing • *Weak Supervision* • *Large Language Model Optimization*

My research interest is efficient machine learning, especially weak supervision and LLM optimization. I am eager to come up with new ideas to help reduce the need for expensive labeled data. I am also working on broadening the scope of machine learning methods toward the long tail of diverse and under-studied application fields.

PAPERS & PRE-PRINTS

* Equal Contribution

[3] Open-world Multi-label Text Classification with Extremely Weak Supervision

Xintong Li, Jinya Jiang, Jayanth Srinivasa, Gaowen Liu, Jingbo Shang

Under Review.

[2] Escaping Label Subspaces via Label Geometry

Nicholas Roberts, Xintong Li, Dyah Adila, Sonia Crompt, 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

University of California, San Diego

San Diego, CA, USA

GRADUATE STUDENT RESEARCHER

Sep 2023 - Present

Worked with Prof. Jingbo Shang on Natural Language Processing.

- Assigned one or more labels to each input document without any labels or ground-truth label space based on LLM prompting.
- Leveraged nodes and relations extracted from the knowledge graph to enhance the performance of LLM internally without adding new knowledge.

University of Wisconsin, Madison

Madison, WI, USA

UNDERGRADUATE RESEARCH ASSISTANT

Feb 2022 - May 2023

Worked with Prof. Jelena Diakonikolas on Non-Convex Optimization.

- 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

Madison, WI, USA

UNDERGRADUATE RESEARCH ASSISTANT

Dec 2020 - May 2023

Worked with Prof. Frederic Sala on Weak Supervision and Foundation Models.

- 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

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

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

TECHNICAL SKILLS

Coursework: Machine Learning, Deep Learning, Nonlinear Optimization, Operating Systems, Database, Data Modeling, Algorithm, Natural Language Processing, Foundation of Data Science, Web Mining and Recommender Systems, Probabilistic Reason and Learning

Programming Language: Java, C++, Python, C, R, Assembly language

Web Programming Knowledge: JavaScript, HTML, CSS, JavaFX

Tools: Pandas, Pytorch, TensorFlow, Scikit Learn, SQL, Scipy, Numpy