Dayou Yu

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Education

2019–2025* **Ph.D.**, Computing and Information Sciences,
Golisano College of Computing and Information Sciences,
Rochester Institute of Technology, Rochester, United States

2015–2019 **B.S.**, Condensed Matter Physics,
School of Physical Sciences,
University of Science and Technology of China, Hefei, China

Employment & Experience

2025– Assistant Professor, Data Science, The University of Memphis

2019–2025 Research Assistant, MINING Lab, Rochester Institute of Technology,
(Advisor: Dr. Qi Yu)

2016–2019 Research Assistant, Zeng Research Group, University of Science and Technology of China, (Advisor: Dr. Jie Zeng)

Research Interests

Machine Learning:

Active learning: active learning theory, algorithms, and applications
Active test-time adaptation: active and efficient adaptation of foundation models
Uncertainty-aware Machine learning: evidential deep learning, model calibration
Statistical Machine learning: Bayesian models, random processes, graph models
Physics-informed Machine Learning: PINN models, neural functionals
Continual learning, Meta-learning, Reinforcement learning, Bayesian optimization

Interdisciplinary:

Machine learning for physics: orbital-free density functional theory modeling
Applications: artificial intelligence applications, augmented&virtual reality

*Expected.

Publications

G Google Scholar
† → Equal contribution

Peer-reviewed Conference Proceedings

C1. Acharya, A., **Dayou Yu**, Yu, Q. & Liu, X. *Balancing Feature Similarity and Label Variability for Optimal Size-Aware One-shot Subset Selection* in *Forty-first International Conference on Machine Learning* (2024). https://openreview.net/forum?id=MurkwIlOh3.

C2. **Dayou Yu**, Li, M., Shi, W. & Yu, Q. *Evidential Mixture Machines: Deciphering Multi-Label Correlations for Active Learning Sensitivity* in *The Thirty-eighth Annual Conference on Neural Information Processing Systems* (2024). https://openreview.net/forum?id=n5lLSskwtu.

C3. **Yu, Dayou**, Shi, W. & Yu, Q. *Discover-Then-Rank Unlabeled Support Vectors in the Dual Space for Multi-Class Active Learning* in *International Conference on Machine Learning* (2023), 40321–40338.

C4. **Yu, Dayou**, Shi, W. & Yu, Q. *STARS: spatial-temporal active re-sampling for label-efficient learning from noisy annotations* in *Proceedings of the AAAI Conference on Artificial Intelligence* **37** (2023), 10980–10988.

C5. **Yu, Dayou**, Shi, W. & Yu, Q. Actively testing your model while it learns: realizing label-efficient learning in practice. *Advances in Neural Information Processing Systems* **36** (2024).

C6. Shi, Weishi†, **Yu, Dayou**† & Yu, Q. A gaussian process-bayesian bernoulli mixture model for multi-label active learning. *Advances in Neural Information Processing Systems* **34,** 27542–27554 (2021).

Journal Articles

J1. Hinz, J., **Yu, Dayou**, Pandey, D. S., Sapkota, H., Yu, Q., Mihaylov, D., Karasiev, V. & Hu, S. The development of thermodynamically consistent and physics-informed equation-of-state model through machine learning. *APL Machine Learning* **2** (2024).

J2. **Yu, Dayou**, Pandey, D. S., Hinz, J., Mihaylov, D., Karasiev, V. V., Hu, S. & Yu, Q. Deep energy-pressure regression for a thermodynamically consistent EOS model. *Machine Learning: Science and Technology* **5,** 015031 (2024).

J3. Shang, C., Cao, C., **Yu, Dayou**, Yan, Y., Lin, Y., Li, H., Zheng, T., Yan, X., Yu, W., Zhou, S., *et al.* Electron correlations engineer catalytic activity of pyrochlore iridates for acidic water oxidation. *Advanced Materials* **31,** 1805104 (2019).

Presentation and Talks

T1. **Yu, Dayou**. *Adaptive Active Learning in Realistic and Challenging Scenarios.* CHAI Summer Seminar (Rochester, NY, USA). July 2024.

T2. **Yu, Dayou**. *Improving Active Learning: From Standard Classification to Testing-While-Learning Frameworks.* GCCIS PhD Colloquium Series (Rochester, NY, USA). July 2024.

Collaborations

U of R	High-Energy-Density Physics (HEDP) Theory Group, University of Rochester, (Group Leader: Dr. Suxing Hu)
UNT	Knowledge-rich Active Learning Research Group, University of North Texas, (Group Leader: Dr. Weishi Shi)

Teaching Experience

Rochester Institute of Technology

2024	Teaching Assistant, Data Driven Knowledge Discovery (ISTE 780)
2023	Teaching Assistant, Data Driven Knowledge Discovery (ISTE 780)
2022	Teaching Assistant, Data Driven Knowledge Discovery (ISTE 780)
2021	Guest lecturer, GCCIS PhD Seminar (CISC 849)

University of Science and Technology of China

2018	Teaching Assistant, General Physics Laboratory

Mentoring

Junior Ph.D. Students

2022-	Abhinab Acharya, Rochester Institute of Technology
2022-	Spandan Pyakurel, Rochester Institute of Technology
2023-	Minghao Li, University of North Texas

Academic Service

Program Committee and Reviewer

2025,2024	Artificial Intelligence and Statistics (AISTATS)
2025,2024	International Conference on Learning Representations (ICLR)
2025,2023	AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment (AAAI)
2024,2023,	Annual Conference on Neural Information Processing Systems (NeurIPS)
2024	Conference on Empirical Methods in Natural Language Processing (EMNLP)
2024,2023	ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)
2024,2023	International Conference on Machine Learning (ICML)
2024,2023	International Joint Conference on Artificial Intelligence (IJCAI)
2024,2023	IEEE International Conference on Data Mining (ICDM)
2024	IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)