ZICHUN YE

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Education

Shanghai Jiao Tong University **Sep. 2020 - Jun. 2024**
B.Eng. in Computer Science and Engineering *Shanghai, China*

- GPA 90.77/100 (or 3.90/4.3), Rank 10/105.
- Achieved A on more than 30 courses, including all theoretical computer science courses (Discrete Mathematics, Probabilistic Theory, Computing Theory, etc).

Shanghai Jiao Tong University **Sep. 2024 - Mar. 2027 (Expected)**
MA.Eng. in Computer Science and Engineering *Shanghai, China*

- GPA 3.87/4.0.

Publications

Y. He, **Zichun**. **Ye**, and C. Zhang. Understanding memory-regret trade-off for streaming stochastic multi-armed bandits. In Proceedings of the ACM-SIAM Symposium on Discrete Algorithms (SODA 2025), pages 3450–3485, 2025.

Zichun. **Ye**, R. Wang, X. Liu, and S. Li. Near-optimal regret for efficient stochastic combinatorial semi-bandits. arXiv preprint arXiv:2508.06247, 2025a.

Zichun. **Ye**, C. Zhang, and J. Zhao. Tight gap-dependent memory-regret trade-off for single-pass streaming stochastic multi-armed bandits. In International Computing and Combinatorics Conference (COCOON 2025), pages 209–222, 2025b.

Research Experience

Memory-Regret Trade-Off for Streaming Stochastic Multi-Armed Bandits **May. 2023 – Mar. 2025**
Advisor: Prof. Chihao Zhang, SJTU

- Characterized the memory–regret trade-off for streaming stochastic multi-armed bandits by introducing a P-pass streaming model with limited arm memory.
- Designed two streaming algorithms based on best-arm retention when memory is large and best-arm identification when memory is small and analyzed their regret bounds respectively.
- Proved the first tight minimax regret lower bound via the technique of likelihood, revealing sharp transitions between small-memory and large-memory regimes.
- Extended the setting to the gap-dependent regret and established tight regret bounds in the single pass.

Near-Optimal Regret for Efficient Stochastic Combinatorial Semi-Bandits **Mar. 2025 – June. 2025**
Advisor: Prof. Xutong Liu, UW, Tacoma, Prof. Shuai Li, SJTU

- Studied the problem of achieving optimal regret for stochastic combinatorial semi-bandits without the extra $\log T$ factor, while keeping the algorithm computationally efficient.
- Designed CMOSS, a MOSS-inspired algorithm which incorporated new confidence bound into CMAB work.
- Proved near-optimal instance-independent regret bound by devising new technical methods and validated by ablation experiments on multiple algorithms.

Unlearning for Offline Stochastic Multi-Armed Bandits **Oct. 2025 – Present**
Advisor: Prof. Xutong Liu, UW, Tacoma, Prof. Mengfan Xu, UMass, Prof. Mohammad Hajiesmaili, UMass

- Introduced the unlearning problem of removing data points from a trained model without retraining from scratch.
- Formalized the underlying optimization problem and designed a mixing algorithm that combines adding noise with rollback.

Additional Experience and Awards

Teaching Assistant *Topics in Modern Algirithms* **Fall 2023, 2024**
Advisor: Prof. Chihao Zhang

- The topics include moment method, concentration inequalities, martingales and diffusion model.
- Responsible for designing, assigning, and marking homework.

Bosch Scholarship **Dec. 2025**
Zhiyuan Honor Scholarship (Top 10%) **Dec. 2021, 2022, 2023**
Huawei Scholarship **Oct. 2022**
COSCO First Class Scholarship **Oct. 2021**

Technical Skills

Programming Languages Python, C++, LaTeX