Yikun Ban

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Research Interests

My research interest is in provable online-learning algorithms to tackle the exploitation-exploration dilemma in sequential decision making, and core research areas lie in multi-armed bandit/reinforcement learning overlapped with deep learning theory, meta learning, active learning, and transfer learning, with applications in recommender system, online advertising, and computer vision.

Education

University of Illinois at Urbana-Champaig, Illinois, USA Aug., 2019 - Present
Ph.D. in Computer Science. Advisor: Prof. Jingrui He.

Peking University, Beijing, China Sep., 2016 - Jun., 2019
M.S. in Computer Science.

Wuhan University, Wuhan, China Sep., 2012 - Jun., 2016
B.S. in Spatial-information & Digitalized Technology

Research Experience

Topic: Machine Learning and Data Mining, UIUC Aug., 2019 - Present
Work with Prof. Jingrui He, Prof. Arindam banerjee, and Prof. Hanghang Tong.

- Linear Contextual Bandits, Neural Contextual Bandits.
- Meta Learning, Active Learning, Transfer Learning
- Regret Analysis, Convergence and Generalization of Deep Neural Networks.

Topic: Graph Mining, Tsinghua University Jan., 2018 - Jan., 2019
Work wth Prof. Wei Xu, Dr. Ling Huang, and Dr. Yitao Duan.

- Anomaly Detection, Clustering, Complexity Analysis.

Publications

- Yunzhe Qi, **Yikun Ban**, and Jingrui He. "Neural Bandit with Arm Group Graph". 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD'22**)
- **Yikun Ban**, Yuchen Yan, Arindam Banerjee, and Jingrui He. "EE-Net: Exploitation-Exploration Neural Networks in Contextual Bandits". 10th International Conference on Learning Representations (**ICLR'22, Spotlight**).
- **Yikun Ban**, Jingrui He, and Curtiss B. Cook. "Multi-Facet Contextual Bandits: A Neural Network Perspective" . 27th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD'21**)
- **Yikun Ban**, Jingrui He. "Local Clustering in Contextual Multi-Armed Bandits". The Web Conference 2021 (**WWW'21**).
- Yuchen Yan, Lihui Liu, **Yikun Ban**, Bayou Jing, and Hanghang Tong. "Dynamic Knowledge Graph Alignment". 35th AAAI Conference on Artificial Intelligence (**AAAI'21**).
- **Yikun Ban**, Jingrui He. "Generic Outlier Detection in Multi-Armed Bandit". 26th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD'20**).
- **Yikun Ban**, Xin Liu, Ling Huang, Yitao Duan, Xue Liu, and Wei Xu. "No Place to Hide: Catching Fraudulent Entities in Tensors". The Web Conference 2021 (**WWW'19**).

Preprint

- **Yikun Ban**, Yunzhe Qi, Tianxin Wei, and Jingrui He. "Neural Collaborative Filtering Bandits via Meta Learning". ArXiv:2201.13395.
- **Yikun Ban** and Jingrui He. "Convolutional Neural Bandit for Visual-aware Recommendation". ArXiv:2107.07438.

Selected Honers

- Student Travel Awards (KDD'20 and KDD'21)
- Outstanding Students of Peking University, 2017-2018.

- Outstanding Graduate Student of Wuhan University, 2012-2016.
- Excellent Students Scholarship of Wuhan University, 2013-2015.
- Outstanding Students of Wuhan University, 2012-2016.

Selected Awards

- First Prize, The "China Software Cup" Software Design Competition for College Students (Top 0.1 %, 2859 teams involved), Aug., 2015
- Second Prize in National Finals, First Prize in Provincial Finals, The "Challenge Cup" China College Student's Entrepreneurship Competition (Top 0.2 %, 5000+ teams involved), Nov., 2014

Teaching Experience

CS412 Introduction to Data Mining (2021 Fall) Aug., 2021 - Dec., 2021
Teaching Assistant. Instructor: Prof. Arindam Banerjee

Mentor Experience

- Yunzhe Qi, PHD student in iSchool at UIUC. Research Topic: Contextual Bandits.
- Yuheng Zhang, PHD student in CS at UIUC. Research Topic: Neural Active Learning.

Academic SERVICE

- Program Committee in NeurIPS'22, ICML'22, KDD'22, AAAI'22, SDM'22, KDD'21, IJCAI'21, CIKM'21.

SKILLS

- Python, C/C++, Java, Scala, Swift, Matlab.