Yu Feng

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Research Interests: Multi-View Learning / Incremental Learning / Learning Theory

EDUCATION

National University of Defense Technology (985/A+ Major) 2023.09 - present

- Master of Electronic Information (Specialization in Big Data Technology and Engineering)
- GPA: 3.15/4.0. Recommended for graduate admission without entrance examination to the National University of Defense Technology, under the supervision of Professor **Xinwang Liu**.
- Major Courses: Machine Learning (92), Methods and Applications of Neural Networks (90), Convex Optimization Techniques (86).

Southwest Jiaotong University(211) 2019.09 - 2023.06

- Bachelor of Science in Mathematics and Applied Mathematics
- GPA: 3.76/4.0 (Rank: 2/62).
- Major Courses: Advanced Algebra II (99), Probability Theory (98), Mathematical Modeling (98), Differential Geometry (98), Ordinary Differential Equations (97), Mathematical Analysis II (95), Mathematical Statistics (95), Real Variable Function (95), Complex Function (94), and Numerical Analysis (93).

RESEARCH EXPERIENCE

Incremental Multi-View Learning 2023.09 - present

- Existing Challenges: Current IMVC algorithms face scalability and complexity limitations, as well as inadequate exploration of stream-view correlations and limited attention to inter-view complementarity.
- Developed an Incremental Nyström-based Multiple Kernel Clustering method, which employs leverage score sampling to approximate the kernel matrix. This method integrates matrix decomposition with incremental learning into a unified framework, improving scalability and reducing computational complexity.
- Designed a novel approach, Incremental Multi-View Clustering with Cross-View Correlation and Diversity, which evaluates the correlations between stream-view from both the global structure and local distribution aspects, guiding the learning of consistency and diversity in stream-view data.
- Completed two papers as the first author, one of which has been published in AAAI 2025, and the other has been submitted to IEEE TKDE.

Consistency and Generalization Analysis of Spectral Clustering 2023.09 - present

- Conducted a survey on the consistency and generalization of Kernel K-means, spectral clustering, and multiple kernel clustering.
- Established the consistency of single-view spectral clustering based on bipartite graph, further deriving the consistency of multi-view spectral clustering within the same framework by leveraging Hoeffding's inequality and spectral theory.
- Currently completing a paper as the first author, preparing to submit it to IEEE TKDE.

PUBLICATIONS

- **Yu Feng**, Weixuan Liang, Xinhang Wan, Jiyuan Liu, Suyuan Liu, Qian Qu, Renxiang Guan, Huiying Xu, Xinwang Liu: Incremental Nyström-based Multiple Kernel Clustering. The 39th AAAI Conference on Artificial Intelligence, **AAAI 2025**. (Poster)
- **Yu Feng**, Weixuan Liang, Xinhang Wan, Jiyuan Liu, Miaomiao Li, Xinwang Liu. Incremental Multi-View Clustering: Exploring Stream-View Correlations to Learn Consistency and Diversity. IEEE Transactions on Knowledge and Data Engineering, **TKDE**. (Major Revision)
- Jiaxin Zhang, Yiqi Wang, Xihong Yang, Siwei Wang, **Yu Feng**, Yu Shi, Ruichao Ren, En Zhu, Xinwang Liu: Test-Time Training on Graphs with Large Language Models (LLMs). The 32nd ACM International Conference on Multimedia, **ACM MM 2024**. (Poster)

- Qian Qu, Xinhang Wan, Weixuan Liang, Jiyuan Liu, **Yu Feng**, Huiying Xu, Xinwang Liu, En Zhu: A Lightweight Anchor-Based Incremental Framework for Multi-view Clustering. The 32nd ACM International Conference on Multimedia, **ACM MM 2024**. (Poster)
- Renxiang Guan, Wenxuan Tu, Siwei Wang, Jiyuan Liu, Dayu Hu, Junhong Li, **Yu Feng**, Baili Xiao, Chang Tang, Xinwang Liu: Structure-Adaptive Multi-View Graph Clustering for Remote Sensing Data. The 39th AAAI Conference on Artificial Intelligence, **AAAI 2025**. (Oral)
- Fangdi Wang, Siwei Wang, Tianrui Liu, Jiaqi Jin, Zhilin Dong, Xihong Yang, **Yu Feng**, Xinzhong Zhu, Xinwang Liu, En Zhu: View Gap Matters: Cross-view Topology and Information Decoupling for Multi-view Clustering. The 32nd ACM International Conference on Multimedia, **ACM MM 2024**. (Poster)
- Jiyuan Liu, Xinwang Liu, Chuankun Li, Xinhang Wan, Hao Tan, Yi Zhang, Weixuan Liang, Qian Qu, **Yu Feng**, Renxiang Guan, Ke Liang: Large-scale Multi-view Tensor clustering with Implicit Linear Kernels. The 42nd IEEE Conference on Computer Vision and Pattern Recognition, **CVPR 2025**. (Poster)
- Yuzhuo Dai, Jiagi Jin, Zhibin Dong, Siwei Wang, Xinwang Liu, En zhu, Xihong Yang, Xinbiao Gan, **Yu Feng**: Imputation-free and Alignment-free: Incomplete Multi-view Clustering Driven by Consensus Semantic Learning. The 42nd IEEE Conference on Computer Vision and Pattern Recognition, **CVPR 2025**. (Poster)

AWARDS

National Scholarship (Top 0.2% in China)| Southwest Jiaotong University 2021
Outstanding Graduate in Sichuan Province| Southwest Jiaotong University 2023
Graduate Admission Scholarship| National University of Defense Technology 2023
National Encouragement Scholarship (Top 3% in China)| Southwest Jiaotong University 2022
National Encouragement Scholarship (Top 3% in China)| Southwest Jiaotong University 2020
Gratitude to Chinese Modern Scientists Scholarship| Southwest Jiaotong University 2021

SCIENTIFIC COMPETITIONS

First Prize - Financial Mathematics Modeling Competition of Guangdong, Hong Kong, and Macao 2020
Second Prize - China Undergraduate Mathematical Contest in Modeling 2021
Second Prize - The 13th Electrical Engineering Mathematical Contest in Modeling 2021
Third Prize - National College Student Market Research and Analysis Competition 2022
Third Prize - The Chinese Mathematics Competitions 2020
Honorable Mention - Mathematical Contest In Modeling 2020

SKILLS

Theoretical Foundation
- Solid foundation in statistics and machine learning
- Hoeffding's inequality, uniform convergence, covering number, Rademacher complexity, and kernel methods

Computer Skills
- MATLAB, Python

Language
- Chinese (native), English

SELF-EVALUATION

- **Research Attitude**: I am filled with passion and curiosity for my research field and aspire to conduct research in machine learning theory. As it is often said, *Curiosity is the engine of achievement.*
- **Personality**: With a cheerful, positive, and optimistic personality, along with a strong logical mind and innovative spirit, I believe that *When life gives you lemons, make lemonade.* This mindset fosters resilience and creativity in research, enabling me to navigate challenges and discover novel solutions.
- **Hobbies**: I am a loyal fan of FC Bayern Munich. Football has taught me that *Even in the last minute, everything can turn around.* This lesson encourages me to remain persistent and adaptable in my research, reminding me that breakthroughs can happen unexpectedly, even in challenging situations.