Linxiang Peng

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EDUCATION

University of Science and Technology of China (USTC) **Sept 2023 – Present**

- **B.Eng. in Data Science** *Expected Jul 2027*
- **GPA: 3.68/4.30** | **Rank: 11/54**
- **Relevant Coursework:**
  - **Core AI & Signal Processing:** Machine Learning
  - **Mathematics & Theory:** Mathematical Analysis (93), Linear Algebra (91), Stochastic Processes (96), Complex Analysis B (96), Partial Differential Equations B (96)

RESEARCH EXPERIENCE

Unsupervised Action Segmentation via Feature-Induced Optimal Transport **July 2025 – Present**
Independent Research Project, School of AI & Data Science, USTC *(Mentored by Prof. Jiangtao Wang)*

- Developed a novel dual-branch framework combining triplet representation learning with Gromov-Wasserstein Optimal Transport (OT) for unsupervised video understanding.
- Proposed a Feature-Induced Residual Structural Prior mechanism that dynamically constructs OT cost matrices by blending rigid temporal masks with learned semantic affinities, effectively solving the "cold start" and "structure collapse" problems in self-training.
- Designed a cyclic optimization strategy where triplet loss serves as an intrinsic data regularizer to mitigate the confirmation bias inherent in OT-generated pseudo-labels.
- Achieved State-of-the-Art (SOTA) performance on benchmarks (50Salads, Breakfast, Desktop Assembly), surpassing strong baselines (e.g., ASOT) by significant margins in MoF scores via adaptive over-clustering and hybrid prior tuning.

Tools: Python, PyTorch, WandB, Optimal Transport

AWARDS

- **China Undergraduate Mathematical Contest, Provincial First Prize** **Dec 2024**
- **MCM/ICM, Honorable Mention (H Award)** **2025**
- **USTC Progress Scholarship (from 3.45/4.3 to 3.58/4.3)** **2023–2024**
- **USTC Outstanding Student Scholarship, Silver Award (Top 10%)** **2024–2025**

SKILLS

- **Programming:** C, Python, LaTeX, SQL
- **Deep Learning:** PyTorch

LANGUAGES

- **Chinese:** Native
- **English:** Proficient in reading and writing scientific papers