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# Peng-Hui YANG

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## EDUCATION

**Nanjing University of Aeronautics and Astronautics**  
*Bachelor in Computer Science and Engineering; GPA: 3.9/5.0*

Nanjing, China  
*Sep. 2019 - present*

### Relevant Courses:

Linear Algebra (91), Data Structure and Algorithm Design (95),  
Pattern Recognition (94), Machine Learning (93), Multivariate Statistical Analysis (94)

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## RESEARCH INTEREST

Multi-Label Learning, Weakly Supervised Learning, Knowledge Distillation

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## PUBLICATION

Ming-Kun Xie, Peng-Hui Yang, Sheng-Jun Huang. Robust AUC Maximization for Classification with Pairwise Confidence Comparisons (Submitted to ICML'22)

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## RESEARCH EXPERIENCE

**A New Method for Class-Conditional Multi-Label Noise** NUAU, Nanjing  
*Research Project at AL Group | Advisor: Prof. Dr. Sheng-jun Huang* Apr. 2022 - Present

- Proposed a novel method for learning with class-conditional multi-label noise

**Multi-Label Knowledge Distillation** NUAU, Nanjing  
*Research Project at AL Group | Advisor: Prof. Dr. Sheng-jun Huang* Nov. 2021 - Present

- Introduced a new learning framework called multi-label knowledge distillation
- Proposed a novel method for this problem based on label dependencies and correlation matrix

**Pairwise LDAM Loss for Long-Tailed Multi-Label Classification** NUAU, Nanjing  
*Research Project at AL Group | Advisor: Prof. Dr. Sheng-jun Huang* Sep. 2021 - Jan. 2022

- Generalized label-distribution-aware margin loss to ranking loss by minimizing a margin-based generalization bound

**Robust AUC Maximization for Classification with Pairwise Confidence Comparisons** NUAU, Nanjing  
*Research Project at AL Group | Advisor: Prof. Dr. Sheng-jun Huang* Apr. 2021 - Sep. 2021

- Proposed a robust method called PC-AUC to solve pairwise comparison (Pcomp) classification problems by minimizing pairwise surrogate losses
- Proved that there exists a linear dependence between the proposed loss and AUC
- Provided the estimation error bound for the proposed method and proved its consistency with respect to AUC
- Achieved comparable performance to baseline models on multiple datasets and validated the effectiveness of the proposed method

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## SKILLS

**Programming Languages:** Python

**Libraries:** PyTorch, Numpy, Scikit-Learn

**Languages:** English (TOEFL 98, GRE 323+3)