

# Peng-Hui YANG

penghuiyang@nuaa.edu.cn | +86 189 9410 9121  
29 Jiangjun Road, Nanjing, China

## 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)

## RESEARCH INTEREST

---

Multi-Label Learning, Weakly Supervised Learning, Knowledge Distillation

## PUBLICATION

---

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

## RESEARCH EXPERIENCE

---

### A New Method for Class-Conditional Multi-Label Noise

*Research Project at AL Group | Advisor: Prof. Dr. Sheng-jun Huang*

NUAA, Nanjing  
*Apr. 2022 - Present*

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

### Multi-Label Knowledge Distillation

*Research Project at AL Group | Advisor: Prof. Dr. Sheng-jun Huang*

NUAA, Nanjing  
*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

*Research Project at AL Group | Advisor: Prof. Dr. Sheng-jun Huang*

NUAA, Nanjing  
*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

*Research Project at AL Group | Advisor: Prof. Dr. Sheng-jun Huang*

NUAA, Nanjing  
*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

## SKILLS

---

**Programming Languages:** Python

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

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