Peng-Hui YANG

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29 Jiangjun Road, Nanjing, China

EDUCATION

Nanjing University of Aeronautics and Astronautics Nanjing, China
Bachelor in Computer Science and Engineering; GPA: 3.8/5.0 *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

Sheng-Jun Huang, Ming-Kun Xie, Peng-Hui Yang. Robust AUC Maximization for Classification with Pairwise Confidence Comparisons (To Be Submitted)
Ming-Kun Xie*, Peng-Hui Yang*, Sheng-Jun Huang. On the Robustness of Loss Functions for Learning with Class-Conditional Multi-Label Noise (To Be Submitted)

RESEARCH EXPERIENCE

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

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

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

- Introduce a new learning framework called multi-label knowledge distillation
- Propose a novel method for this problem based on label dependencies and label embeddings

Robustness of Loss Functions for Class-Conditional Multi-Label Noise NUAA, Nanjing
Research Project at AL Group | Advisor: Prof. Dr. Sheng-jun Huang *Oct. 2021 – Mar.2022*

- Disclose that the balanced hamming loss (BHL) and ranking loss (RL) are robust under CCMN
- Show that by using symmetric surrogate losses, the BHL and RL minimization can be achieved efficiently with ordinary SGD optimizer only based on corrupted data without knowing the noise rates

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

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

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

- Propose a robust method called PC-AUC to solve pairwise comparison (Pcomp) classification problems by minimizing pairwise surrogate losses
- Prove that there exists a linear dependence between the proposed loss and AUC
- Provide the estimation error bound for the proposed method and proved its consistency with

respect to AUC

- Achieve 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)