

Wu Xiaotong

+86 187-1869-4128

12232877@mail.sustech.edu.cn

Shenzhen, China

EDUCATION

Southern University of Science and Technology (SUSTech)

2022/09-Present

Master of Mathematics

GPA 3.54/4.0

South China University of Technology (SCUT)

2018/09-2022/07

Bachelor of Mathematics

Rank 7/66 GPA 3.72/4.0

Bachelor of Finance (dual degree)

Professional Courses: Probability (96), Data Mining and Statistics Decision (97), Machine learning (94)

RESEARCH EXPERIENCE

Unsupervised Effective Labeling for Semi-supervised Learning and its Application

2023/02-Present

- Inspired by three principles for unsupervised data selection proposed in previous paper, three new principles (balance, representativeness and regularization) are proposed
- KNN is used to achieve representativeness, clustering method SPICE is used to achieve balance, inter-class and intra-class regularization are discussed
- Perform experiments on CIFAR dataset and verify the effectiveness of our principles
- Our methods and experiments need to be further refined so that they remain valid on imbalanced as well as real-world datasets

Robust retrieval of material chemical states in X-ray microspectroscopy

2022/11-2023/05

- Formulate TXM-XANES unmixing task as an optimization model, incorporate prior information (Explicit & Implicit Regularization) and enhance the robustness of our model
- Apply the alternating direction method of multipliers (ADMM) to solve our model
- Evaluate our model extensively using both quantitative and qualitative methods on synthetic and real datasets
- Paper is posted on arXiv: [T. Wang, X. Wu, J. Li, and C. Wang. Robust retrieval of material chemical states in X-ray microspectroscopy. arXiv:2308.04207](https://arxiv.org/abs/2308.04207) (submitted)

HONORS & AWARDS

- The Second Prize Scholarship in SCUT (2019, 2021)
- The Third Prize Scholarship in SCUT (2020)
- The First Prize in "Greater Bay Area Cup" Financial Mathematical Modelling Contest (2020)
- The Third Prize of Guangdong Province, National Student Mathematical Modelling Competition (2020)
- The Honorable Mention of the American Mathematical Contest In Modeling (2021)
- "Outstanding Graduate" of School of Mathematics, SCUT (2022)
- "Merit Student" in SCUT (2019~2021)
- "Outstanding Student Leader" in SCUT (2020)

INTERSHIP EXPERIENCE

Shenzhen "DigQuant" Financial Technology Company

Quantitative Research Internship

2021/07-2022/01

- Learn the basics of financial markets and study Commodity Trading Advisor (CTA) strategy
- Simulate the trend strategy, arbitrage strategy and algorithmic trading strategy of futures management by Python
- Use various quantitative indicators (MACD, RSI, KDJ) to identify market signals
- Design and implement CTA strategies based on indicators and trading ideas

PERSONAL SKILLS

Programming:

Python (Competent), MATLAB (Competent), R (Competent), MySQL (Understand), C++ (Understand)

Software/API:

TensorFlow, Pytorch, MS Office, LaTeX

Algorithm:

Neural Network (CNN, ResNet); Clustering (K-Means, SPICE); Feature Extraction (PCA, t-SNE, MoCo); Semi-supervised Learning (FixMatch, MixMatch, DARP); SVM; KNN

Language:

English (CET4, CET6), Japanese (JLPT-N1), Mandarin Chinese (Fluent), Cantonese Chinese (Listening)