Yajie Zhang

zyj0928@tju.edu.cn/yajie.zhang@physik.lmu.de

EDUCATION

University of Munich (Visiting Ph.D.) **Germany**

Astrophysics *Sep, 2024 - Present*

- Advisor: Prof. Daniel Gruen

Tianjin University (*Ph.D.*) **China**

Computer Science and Technology *Sep, 2020 - Present*

- Advisor: Prof. Ce Yu

Massey University (Double Bachelor's degree) **New Zealand**

Computer Science and Technology *Feb, 2017 - Jun, 2020*

Hebei University of Technology (Bachelor) **China**

Internet of Things Engineering *Sep, 2016 - Jun, 2020*

- GPA: 3.85/4.0 (1/74)

RESEARCH INTERESTS

Resource Allocation and Optimization, AI for Science, Machine Learning, Observation Scheduling

PUBLICATIONS

2024

GRRIS: a real-time intra-site observation scheduling scheme for distributed survey telescope arrays

- **Yajie Zhang**, Ce Yu, Chao Sun, Yi Hu, Zhaohui Shang, Jizeng Wei, Xu Yang
- *The Astronomical Journal.*

Solving Online Resource-Constrained Scheduling for Follow-Up Observation in Astronomy: a Reinforcement Learning Approach

- **Yajie Zhang**, Ce Yu, Chao Sun, Jizeng Wei, Junhan Ju, Shanjiang Tang
- *Future Generation Computer System*.

LEAVES: an expandable light-curve data set for automatic classification of variable stars

- Ya Fei, Ce Yu, Kun Li, Xiaodian Chen, **Yajie Zhang,** Chenzhou Cui, Jian Xiao, Yunfei Xu, and Yihan Tao
- *The Astrophysical Journal Supplement.*

Relay Observation Scheduling of Global Distributed Telescope Array Based on Integer Programming

- Junhan Ju, Ce Yu, Yi Hu, **Yajie Zhang**, Chao Sun, Jizeng Wei
- *Research in Astronomy and Astrophysics.*

A Comprehensive Survey on Scheduling Techniques for Astronomical Observation: Taxonomy, Challenges, and Future Directions Relay Observation Scheduling of Global Distributed Telescope Array Based on Integer Programming

- Ce Yu, **Yajie Zhang**, Chao Sun, Yi Hu, Zhaohui Shang, Junhan Ju
- *ACM Computing Surveys* (under review).

2023

HLC2: a Highly Efficient Cross-matching Framework for Large Astronomical Catalogues on Heterogeneous Computing Environments

- **Yajie Zhang**, Ce Yu, Chao Sun, Zhaohui Shang, Yi Hu, Huiyu Zhi, Jinmao Yang, Shanjiang Tang
- *Monthly Notices of the Royal Astronomical Society*.

A Multi-level Scheduling Framework for Distributed Time Domain Large-area Sky Survey Telescope Array

- **Yajie Zhang**, Ce Yu, Chao Sun, Jian Xiao, Kun Li, Yifei Mu, Chenzhou Cui
- *The Astronomical Journal*.

3DT-CM: A Low-complexity Cross-matching Algorithm for Large Astronomical Catalogues using 3d-tree Approach
- Yifei Mu, Ce Yu, Chao Sun, Kun Li, **Yajie Zhang**, Jizeng Wei, Jian Xiao, Jie Wang
- *Research in Astronomy and Astrophysics*.

2022

TSCat: Data Model and Storage Engine for AI-based Light Curve Analysis
- Kun Li, Ce Yu, Yanxia Zhang, Chao Sun, Jian Xiao, Chenzhou Cui, **Yajie Zhang**, Yifei Mu
- *Monthly Notices of the Royal Astronomical Society*.

Scalable framework of intelligent RFI flagging for large-scale HI survey data from FAST
- Jian Xiao, **Yajie Zhang**, Bo Zhang, Zhicheng Yang, Ce Yu, Chenzhou Cui
- *New Astronomy*.

2021

Astro-TS3: Time-series Subimage Search Engine for Archived Astronomical Data
- Qinlong Kang, Ce Yu, **Yajie Zhang**, Chenzhou Cui, Chao Sun, Jian Xiao, Shanjiang Tang
- *Astronomy and Computing.*

HONORS and AWARDS

- China Scholarship Council Scholarship, 2024
- Outstanding Graduate, Hebei Province, 2020
- Merit Student, Hebei University of Technology, 2017-2020
- University-Level Scholarship, Hebei University of Technology, 2017-2020
- Provincial Merit Student (3 out of 220), Hebei Province, 2019
- Meritorious Winner, MCM/ICM, 2019
- Second Prize, National English Competition for College Students, 2017

SKILLS

- Familiar with Python (Pytorch,Tensorflow), C/C++
- Development experience with CUDA framework
- Fluent oral English communication and good reading and writing skills (CET-6 602)

SERVICES

- Journal Reviewer: IOP Publishing Peer Review Excellence training graduate with the American Astronomical Society (AAS), 2023
- Teaching Assistant of Classes:
  Parallel Computing, Modern Computer Architecture, Parallel Programming. Tianjin University, 2020-2023;
  Computational Astrophysics Lab in Python. University of Munich, 2024-2025
- Translator: International Exchange and Cooperation Department, Hebei University and Technology, 2018