

QINGYI PAN

☎ 86-18801086177 ✉ pqy19@mails.tsinghua.edu.cn 📧 ml.cs.tsinghua.edu.cn/qingyi 🌐 github.com/pqy000

Education

Tsinghua University

Master of Engineering in Machine Learning, Department of CS, advised by Prof. Jun Zhu

Sep. 2019 – Jul. 2021

Beijing, China

Qinghai University, GPA 91.4/100, Rank 1/112, Highest Honor

Bachelor of Engineering, Department of CS, advised by Prof. Xiaoying Wang

Sep. 2014 – Jul. 2018

Xining, Qinghai, China

Publications and Projects

Publications | *Research articles published/submitted*

Jun. 2017 - Present

- **Q. Pan**, W. Hu and N. Chen. Two Birds with One Stone: Series Saliency for Accurate and Interpretable Multivariate Time Series Forecasting, *International Joint Conference on Artificial Intelligence, IJCAI*, 2021
- **Q. Pan**, X. Zhang, T. Tsai and J. Zhu. Accurate and Interpretable Semi-supervised Time Series Classification via VT2. *AAAI Conference on Artificial Intelligence, Submit to AAAI, Phase 2*, 2022
- **Q. Pan** and X. Wang. Independent Travel Recommendation Algorithm based on Analytical Hierarchy Process and Simulated Annealing for Professional Tourist. *Appl. Intel.* 2018. (IF = 5.086)
- **Q. Pan** and X. Wang. Performance Evaluation and Optimization of HPCG benchmark on CPU+MIC platform. *International Journal of Hybrid Information Technology, IJHIT*, 2017.
- Y. Li, X. Wang, P. Luo and **Q. Pan**. Thermal-aware hybrid workload management in a green datacenter towards renewable energy utilization. *Energies*, 2019. (IF = 3.085)

Projects | *Interpretable Machine Learning and its Applications in Spatio-Temporal data*

Jun. 2017 - Present

- Semi-supervised Time Series Classification <https://github.com/pqy000/SemiTimeSeries>
- Interpretable Time Series Forecasting <https://github.com/pqy000/Deeplearning2020>
- Deep Learning Project <https://github.com/pqy000/ResNet18-pytorch>

Experience

Graduate Research: Interpretable Semi-supervised Time Series Classification

Jul. 2021 – Present

Tsinghua University, Department of Computer Science, Jun Zhu's Group

Beijing, China

- Consider the temporal dependency in time series data when exploring the semi-supervised smoothness assumption.
- Developed an accurate and interpretable semi-supervised time series classification Virtual Trendmix Training.
- Propose a quantitative metric AUSSL to measure the interpretability of various classification methods.

Graduate Research: Interpretable Multivariate Time Series Forecasting

Jun. 2020 – Dec. 2020

Tsinghua University, RealAI, Advanced Algorithm Group

Beijing, China

- Explore the accurate and interpretable methods for multivariate time series forecasting.
- Present a model agnostic scheme of series saliency to consider time and feature dimensions coherently.
- Produce accurate time series forecasting results as well as generating temporal interpretations.

Working Experience: Lecturer

Jul. 2018 – Jun. 2019

Qinghai University, Department of Computer Science

Xining, Qinghai

- Instructor of CS101 Introduction to C++ programming Autumn and CS202 Operating System, Spring.
- Vice President of Young League Committee at Qinghai University.
- Chief Counselor in Department of Computer Science.

Undergraduate Research: Independent Tourist Recommendation System

Jun. 2017 – Mar. 2018

Qinghai University, Department of Computer Science, Xiaoying Wang's HDACP lab

Xining, Qinghai

- Recommend trip schedules to satisfy the unique needs of each independent traveler, such as preferred hotels, landmarks, and time availability.
- Propose a three-step recommendation algorithm. We use the Analytic Hierarchy Process model and greedy simulated annealing algorithm to select the best landmarks with high evaluation scores. Then path planning is abstracted as TSP, and simulated annealing based on roulette wheel selection is adopted to solve it.

Undergraduate Research: Performance Evaluation of HPC Platform.

Jun. 2017 – Mar. 2018

Qinghai University, Department of Computer Science, Xiaoying Wang's HDACP lab

Xining, Qinghai

- Use the CPU+MIC heterogeneous computing platform and successfully transplant HPCG to the platform. Through the analysis of HPCG source code and optimization for CPU+MIC platforms, further research is put forward.
- Results of performing the benchmark indicate the optimization has facilitated the speedup of the HPCG benchmark.

Patents

Q. Pan, W. Hu, Interpretable Time Series Training Method, Device and Computing Equipment,
No.CN2021101414856A(Pending)

J. Zhu, **Q. Pan**, X. Zhang, Z. Wang, Semi-supervised Time Series Classification Algorithm based on TrendMix Training.
No.CN2021111601797520B (Pending)

Selected Honors and Awards

The 11th China Youth Science and Technology Innovation Award (The national highest honor in the field of youth science and technology in China)

2021 International Joint Conference on Artificial Intelligence, IJCAI Student Grant

2018 Global Second Prize for ASC Student Supercomputer Challenge

2017 Meritorious Winner in International Mathematical Modeling Contest

2017 China National Scholarship

Professional Service

Head TA 2021 Autumn, in *Students Research Training*, instructed by Prof. Jun Zhu

Head TA 2019 Spring, in *Operating System*, instructed by Prof. Xiaoying Wang

Technical Skills

Programming Languages: Python, C++, C, Matlab

Libraries: Pandas, Pytorch, Numpy, Matplotlib, VS Code, Google Cloud Platform, Pycharm