Tailong Xiao

PhD Candidate

Part-time Intern

August 1996

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Shanghai, China

Skills

Languages： C, C++, Python, Matlab, SQL, Latex, Markdown, Mathematica.

Development： Linux, Git, docker, etc.

Frameworks： Scikit-learn, Pytorch, Cirq, Qutip, Tensorflow-Quantum, etc.

Interests

- Quantum machine learning Alg.
- Quantum metrology based on machine learning
- Quantum tomography based on machine learning
- Quantum control and Deep reinforcement learning

On-campus

- Monitor of undergraduate class

Strengths

- Multi-field Knowledge Reserve (Machine learning, Quantum physics, Communication system, etc.)
- Good Understanding for AI papers and frontier physical papers
- Good mathematical foundation
- Fast learner and good innovator

Education

2018-2023 Shanghai Jiao Tong University, China — PhD candidates

Major in Communication and Information System, GPA 3.74/4

2014-2018 Central South University (985), China — Bachelor

Major in Communication Engineering, 2/100, TOP 2%

Experiences

PhD candidate project: Designing and Exploiting quantum machine learning algorithms

Designing and Exploiting quantum machine learning algorithms is a great challenge, which needs the rich knowledge of machine learning and quantum computing. Quantum computing is expected to beat all classical computers to show it supremacy. Now, we keep up with the cutting-edge research in the world to propose our algorithms.

2016.9-2017.6 National undergraduate free exploration project: Wireless sensor network

As a project manager, study the wireless sensor network and propose clustering algorithm to extend the network's life cycle. We have published two conference papers and one journal paper during this project.

2016.9-2017.6: National undergraduate innovation project: Intelligent transportation system

As a participator, mainly exploit the transportation monitor panel. Also, make PPT and write project paper.

2015.12-2016.9: Undergraduate innovation project of university: Ultrasonic distance measuring system

As a project manager, study the knowledge of SCM (51 and STM series) and the principle of ultrasonic distance measuring. Using SCM to realize the function by coding C language through Keil software.

Honors and Awards

- 2014-2018 Central South University：Outstanding graduates of Hunan Province, Outstanding graduates of Central South University, Outstanding student pacesetter, National Scholarship, National Inspirational Scholarship, Special scholarship (TOP 1%), First-class scholarship (TOP 8%), Enterprise Scholarships (Top 5%, 2 times).
- Honorable Awards of American Mathematical Modeling Competition (2 times, 2016,4 and 2017, 4). National Second prize of National College Students Mathematical Modeling Competition (2016,12)
- 2019 Shanghai Jiao Tong University: Yang Jiachi Scholarship.

Publications

1. **Xiao, Tailong, et al.** "Quantum Boltzmann machine algorithm with dimension-expanded equivalent Hamiltonian." Physical Review A 101.3 (2020): 032304.
2. **Xiao, Tailong, et al.** "Continuous-variable Quantum phase estimation based on Machine Learning." Scientific reports 9.1 (2019): 1-13.
3. **Xiao, Tailong** (corresponding author). "A Robust and Energy-Efficient Weighted Clustering Algorithm on Mobile Ad Hoc Sensor Networks." Algorithms 11.8 (2018): 116.
4. Qi, Huamei, **Xiao Tailong** et al. "Toward Energy-Efficient and Robust Clustering Algorithm on Mobile Ad Hoc Sensor Networks." International Conference on Combinatorial Optimization and Applications. Springer, Cham, 2017. (Oral presentation)