KEMING HE
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EDUCATION

The Hong Kong University of Science and Technology (Guangzhou)   **Guangzhou, Guangdong, China**
- **PhD of Artificial Intelligence**   *08/2024 –present*
- **Research Interests:** Quantum Information Theory, Quantum error correction, Artificial Intelligence

University of Southern California   **Los Angeles, California, U.S.**
- **Master of Science, Electrical Engineering**   *01/2022 –05/2023*
- **GPA: 3.85/4.00**
- **Relevant Courses:** Quantum Information Processing, Quantum Information Theory, Theory of Open Quantum System

Chongqing University   **Chongqing, China**
- **Bachelor of Science in Electronic Information Science and Technology**   *09/2017 – 06/2021*
- **Relevant Courses:** Electrodynamics, Quantum Mechanics, Signals and Systems, Semiconductor Physics

EXPERIENCE

Hong Kong University of Science and Technology (Guangzhou)   **Guangzhou, China**
Research Assistant   *09/2023 – 08/2024*
Supervisor: Dr. Xin Wang
- Studied on recovery ability of quantum Markovian chain state in quantum information theory
- Researched on LDPC codes in classical and quantum channel coding theory, and developed decoder for circuit level noisy simulation based on machine learning
- Developed Python library for quantum computing and quantum information processing, quantum LDPC codes

University of Southern California   **Los Angeles, U.S.**
Student   *03/2023 – 05/2023*
Mentor: Dr. Daniel Lidar
- Studied and analytically solved a model of a qubit coupled to bosonic bath in a cavity within the 1-excitation subspace in open quantum system
- Calculated the model with Ohmic spectral density function by means of various derivation of Lindblad master equation and time convolutionless master equation(TCL)

Chongqing University   **Chongqing, China**
Research Assistant   *08/2020 – 06/2021*
Supervisor: Dr. Yingzhou Huang
- Developed ventilating and adjustable sound-absorbing structure that simulated the effect of sound-absorbing in COMSOL
- Designed the STM32-based control unit and maximized the effect of sound-absorbing in terms of sound frequency

PUBLICATIONS

- Chen, Y., Zhu, C., **He, K**., Jing, M.H., & Wang, X. (2023). **Virtual Quantum Markov Chains**. ArXiv, abs/2312.02031.
- Tian H, Xiang X, **He K**, et al. **Automatically Adaptive Ventilated Metamaterial Absorber for Environment with Varying Noises**[J]. Advanced Materials Technologies, 2021, 6(12): 2100668.

TECHNICAL SKILLS

- Proficient in Matlab, C language, Python, LaTeX
- Skillful at Programming, Physical Experiments, and Data Processing