Guo Zheng

St. John's College, University of Oxford, OX1 3JP
Tel: 07422919561 email: guo.zheng@sjc.ox.ac.uk

EDUCATION

University of Oxford **Oxford, United Kingdom**
Master of Physics, St. John's College, University of Oxford 2017 - 2021
- **Honors:** 1st Class Distinction, placed top 5% among around 200 physics major students

Richmond Hill High School **Richmond Hill, Canada**
Richmond Hill High School Characters Award, National AP scholar 2014 - 2017
- **GPA**: 95/100

WORK & RESEARCH EXPERIENCE

University of California, Berkeley, Department of Physics **Berkeley, United States**
Summer Research Intern, Prof. Hartmut Haeffner 08/2019 - 10/2019
- Implemented methods to improve the fidelity of state readouts for quantum computing with ion-traps. Benchmarked statistical and machine learning methods on the state readout image for state discrimination such as K-means clustering and maximum likelihood.
- Replaced the previous readout camera with a different camera of smaller signal-to-noise ratio. Coordinated with the company of production, and wrote an interface to integrate the camera functions to the lab server.

Princeton University, Department of Chemistry **Princeton, United States**
Summer Research Intern, Prof. Herschel Rabitz 06/2019 - 08/2019
- Worked on solving quantum many-body problem using Artificial Neural Networks (ANN) structures such as Feed Forward Neural Network and Restricted Boltzmann Machine.
- Investigated on one dimensional Ising model under transverse and longitudinal time-dependent fields. Optimized the hyperparameters of the ANN approach by initializing with imaginary time evolution and implementing stochastic reconfiguration. Demonstrated the supremacy of ANN method to conventional methods for up to 10 spins.
- Expected to continue working on the project and submit the results for publication at the end of 2019.

Southern University of Science and Technology, Department of Physics **Shenzhen, China**
Summer Research Intern, Professor Yuan-Zhen Chen 06/2018 - 08/2018
- Researched quantum algorithms and presented to the research group on algorithms such as Shor's algorithm, Grover's algorithm, HHL algorithm, and their potential applications. Compared quantum machine learning with classical machine learning.
- Expanded expressions for the Hamiltonian of transmon entanglements from two transmons to multiple ones and measured the experimental realizability by estimating the magnitude of interactions.

ACADEMIC HONORS & EXPERIENCE

International Physics Olympiad (IPhO) **Yogyakarta, Indonesia**
Silver Medal, Member of National Team of Canada 07/2017
United States of America Mathematical Olympiad (USAMO) **United States**
Qualifier, Top 200 in North America 03/2017
International Young Physicists' Tournament (IYPT) **Yekaterinburg, Russia**
Captain of the National Team of Canada 07/2016

SKILLS, ACTIVITIES & INTERESTS

Languages: Mandarin (native) and English (fluent);
Technical Skills: Python, R, Matlab, and Java;
Activities & Clubs: Oxford University Strategy Group Digital, Physics Society, and Go Society;
Sports: Table Tennis (Oxford University Team), Basketball (Oxford University Chinese Basketball Team).