AO CHEN

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EDUCATION

ETH Zurich *Zurich, Switzerland*
MSc. Physics *Sept. 2019 –*

Fudan University *Shanghai, China*
BSc. Physics *Sept. 2015 – Jun. 2019*
- Chinese National Scholarship

University of California, Berkeley *California, U.S.*
Exchange Semester *Jan. – May 2018*

RESEARCH INTERESTS

- Numerical methods in quantum many-body systems
- Applications of modern machine learning techniques in condensed matter physics
- Improve machine learning algorithms basesd on physics pictures

RESEARCH EXPERIENCE

ETH Zurich *Zurich, Switzerland*
Semester Project & Master Thesis *Sept. 2019 – Sept. 2020*
Advisor Titus Neupert
- Use neural network evolution strategy to solve the sign structure of quantum many-body systems
- Study the property of Heisenberg J1-J2 models in 2D square lattice and 3D pyrochlore lattice

Fudan University *Shanghai, China*
Graduation Thesis *Feb. – Jun. 2019*
Advisor Yang Qi
- Use transfer learning to improve neural network performance in complex quantum many-body problems
- Apply variational autoregressive networks to quantum systems

University of Tokyo *Tokyo, Japan*
University of Tokyo Summer Internship Program (UTSIP) *Jun. – Aug. 2018*
Advisor Yu Chen
- Study the homeostasis through the non-equilibrium phase transitions in a stochastic cellular automaton

PUBLICATIONS

Nikita Astrakhantsev, Tom Westerhout, Apoorv Tiwari, Kenny Choo, **Ao Chen**, Mark H. Fischer, Giuseppe Carleo, Titus Neupert. Broken-Symmetry Ground States of the Heisenberg model on the Pyrochlore Lattice. arXiv:2101.08787 (2021).

Yuting Lou, **Ao Chen**, Erika Yoshida and Yu Chen. Homeostasis and systematic ageing as non-equilibrium phase transitions in computational multicellular organizations. R. Soc. open sci. 6: 190012 (2019).