

# Dong Zhou

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US green card holder

## SUMMARY

A scientist and programmer. Author of 30+ journal articles with 1000+ citations. Erdős number  $\leq 5$ . Familiar with magnetic resonance imaging, quantum computing, and biophysics.

## SKILLS

Python, Go, C/C++, AWS  
Computational physics/mathematics, Image processing, Machine learning

## EXPERIENCE

- Senior scientist/senior developer I, Schrödinger Inc. 2016-present  
Implement library for molecular dynamics trajectory analysis (Python, C++). Maintain scientific computing web services (AWS, Go, Python, PostgreSQL, REST, gRPC, Polymer.js). Maintain atom mapping module (subgraph isomorphism) for free energy perturbation. Participated in the design and implementation of the grand canonical Monte Carlo free energy perturbation trajectory APIs.
- Postdoc in radiology, Weill Medical College of Cornell University 2012–2016  
Solved ill-posed inverse problems in medical imaging such as magnetic susceptibility and susceptibility tensor imaging, magnetic quadrupole imaging, 3D phase unwrapping (Matlab, C/C++). Developed probes for transcranial magnetic stimulation both in simulation (COMSOL multiphysics) and on hardware (electronics, 3D printing).
- Postdoc in physics, Yale University 2011–2012  
Developed state preparation scheme using quantum bath engineering, and adiabatic phase based two-qubit CNOT gate scheme on circuit QED hardware (3D transmon). Simulated these schemes using Python package QuTip.
- Research assistant, University of Wisconsin-Madison 2007–2011  
Solved open quantum systems dynamics in the presence of classical stochastic noises both analytically and numerically (Matlab, C++). Developed schemes for quantum gate, quantum control, and entanglement preparation for quantum dot systems. Developed algorithm for graph isomorphism problem using continuous-time quantum random walk. Performed X-ray diffraction and synchrotron radiation experiments (X-ray absorption near edge spectroscopy and microscopy) on nacre and other biological samples.

## EDUCATION

- Ph.D in physics, University of Wisconsin-Madison (GPA 4.0) 2006–2011
- Graduate study in physics, University of Georgia-Athens (GPA 4.0) 2004–2006
- B.S. in physics, Honored Mixed Class, Zhejiang University, China (GPA 3.8) 2000–2004