Quantum Mechanics & Quantum Computation

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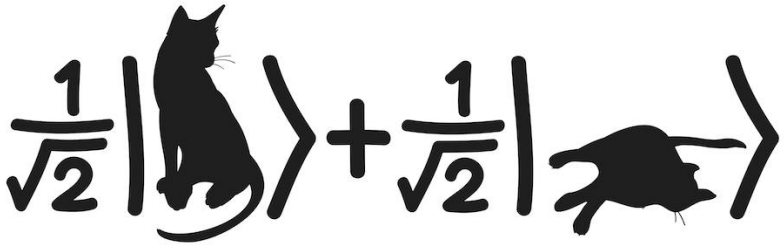

Lecture 16: Quantum Complexity Theory

Wrapping Up

- Course has been a learning experience for me
- Lecture format
- Multiple choice homeworks
- Scale

Seung Woo Shin

- Roughly the first eight weeks of the course we teach at Berkeley.
- The last four weeks of the course focus on physical implementation of qubits, quantum gates, measurements.
- We will try to offer a second segment of the course that includes that material.
- Other possible topics:
  - quantum cryptography
  - density matrices
  - decoherence
  - quantum error correction
  - quantum adiabatic algorithm

Survey:

- About yourself

- About the course:
  - Level of difficulty
  - “just in time” approach to presenting math
  - Multiple choice Assignments

Survey:

- About the future:
  - Basic material, simple, concrete, easy to understand…
  - Discussion of and pointers to research results
  - Philosophical aspects: what is a measurement, …
  - Physical implementation
  - More CS: algorithms, complexity.
  - Assignments, exams