Quantum Computing and Cryptography - 25: Quantum Error Correction Codes

Length	Micromodule
Collection	NSA NCCP
Updated	March 14, 2019
Contributors	Abhishek Parakh
Academic Levels	Undergraduate, Graduate
Topics	Quantum Computing
Link	https://clark.center/details/aparakh/cacf825f-a0ec-43fc-b37a-b1a5ab3e7b6e

Description

This lesson introduces quantum error correction codes. We will learn Shor's bit-flip and phase-flip error correction codes and how it can be used to correct arbitrary single-qubit errors.

Note: To get started with Jupyter notebooks please follow the userguide available at: https://sites.google.com/unomaha.edu/userguideqcl/

Outcomes

- Classify quantum error correction codes
- Apply quantum operations to correct errors