Quantum Computing and Cryptography - 23: Entanglement based QKD

Length	Micromodule
Collection	NSA NCCP
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Academic Levels	Undergraduate, Graduate
Topics	Quantum Computing
Link	https://clark.center/details/aparakh/a68db413-fa2f-4bef-8af7-bb5343f6107c

Description

This lesson introduces the use of the uniquely quantum phenomenon of entanglement to construct a key distribution protocol. Students will use Bell's inequality to check for eavesdropping.

The files are named nanomodules but it will take between 1 to 4 hours to complete all the exercises.

Email Dr. Abhishek Parakh at aparakh@unomaha.edu for solutions to the problems.

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

Outcomes

- Apply the principle of quantum entanglement and Bell's inequality to construct a quantum key distribution protocol.
- Use Bell's inequality to check for eavesdropping.