



Qiskit

Mentorship Program



#40 Create a tutorial for Iterative Phase Estimation (IPE) algorithm

MENTOR



Hwajung Kang

MENTEES

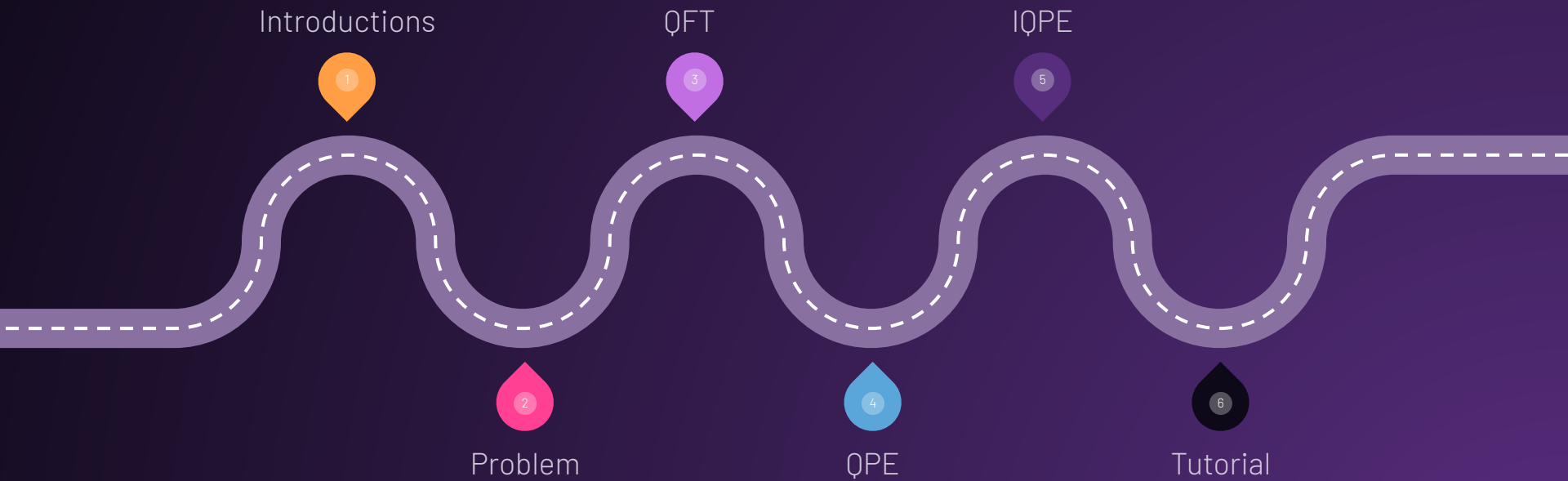


David Morcuende



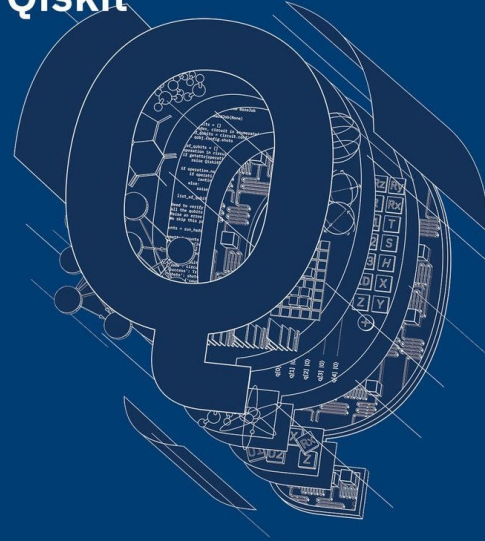
Filippo Tramonto

ROADMAP

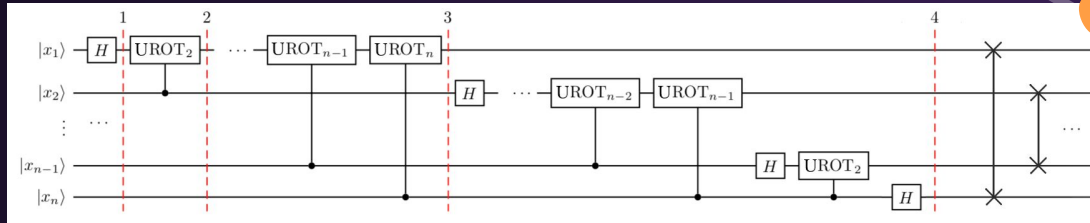


— Our Bible

Learn Quantum
Computation using
Qiskit

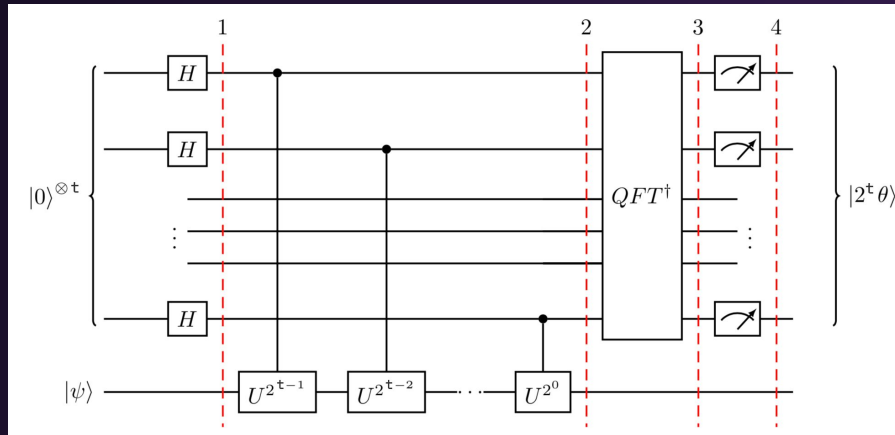


Quantum Fourier Transform



- Textbook Problems
- QFT adder circuit for 2 bit numbers

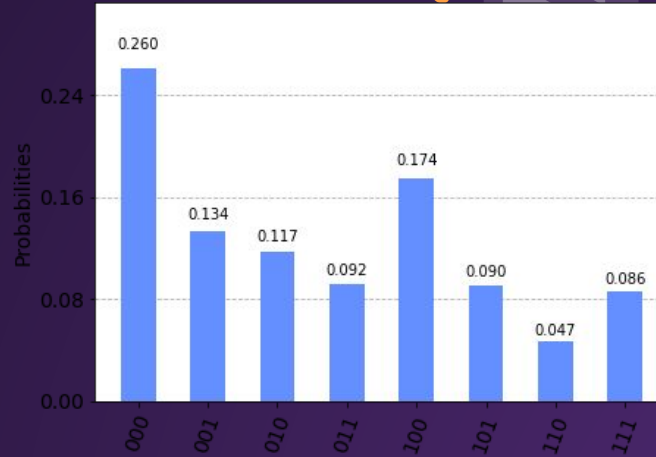
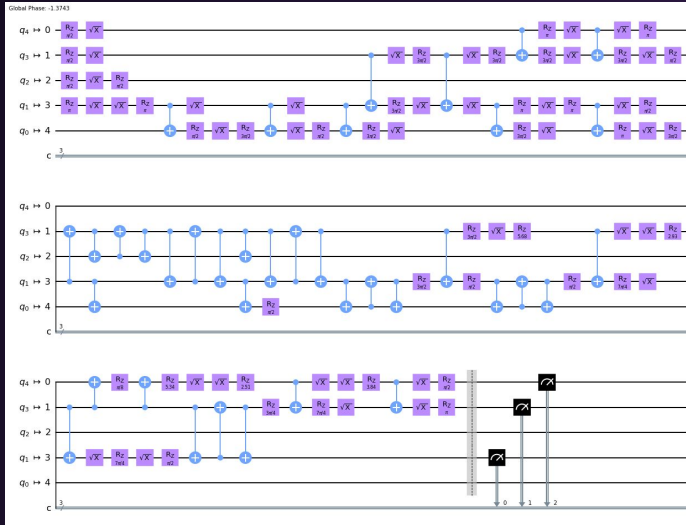
Quantum Phase Estimation



- Textbook Problems
- QPE circuit to compute the eigenvalues of the unitary, $U = X \otimes Y$



Quantum Phase Estimation



- As the number of counting qubits grows, the algorithm doesn't work properly on real devices due to noise.

Iterative Quantum Phase Estimation

Work in progress....





— Content Bugs

- Inconsistency with indexes in section 5 of the chapter 3.5 [#964](#)
- Broken link in 3.6 Quantum Phase Estimation [#1001](#)



— Thank you

