

-
1. Simulation for Shor's algorithm using CUDD to represent quantum states.
 2. Ditto for Grover's algorithm.
(need to break into parts for a group term project)
 3. Quantum simulated annealing (Eckert: a potential ``killer app'').
 4. Classical reversible circuit synthesis for specific apps.,
e.g., encryption, DFT, etc.
 5. Evaluating effects of technology-specific constraints (e.g., NMR)
on the size/shape of [near-]optimal circuits and synthesis algorithms.
 6. Classical spectral methods for logic synthesis/verification
implemented on quantum computers.
 7. Group-theoretical methods for synthesis of classical reversible
and quantum circuits.