SHAWN
ONG

CONTACT INFO

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ABOUT ME

I am a PhD Candidate in the Center for Applied Math at Cornell University. My research involves looking at connections between particular logical structures (formal languages) and models of computation (automata), though I am broadly interested in theoretical computer science, especially problems involving logic.

EDUCATION

DOCTOR OF PHILOSOPHY   2018-present
Cornell University | *Ithaca, New York*

- Major in Applied Mathematics
- Minors in Mathematics and Computer Science
- Advised by Dexter Kozen
- Expected Graduation May 2025

MASTER OF ARTS   2018-2022
Cornell University | *Ithaca, New York*

- Major in Applied Mathematics
- A-exam topic: "Review Systems and Probabilistic Automata"

MASTER OF ARTS   2016-2018
University of Pennsylvania | *Philadelphia, Pennsylvania*

- Major in Applied Mathematics
- Thesis topic: "On the Complexity of Lunar Lockout"

BACHELOR OF ARTS   2014-2018
University of Pennsylvania | *Philadelphia, Pennsylvania*

- Majors in Mathematics; Computer Science; and Logic, Information, and Computation
- Graduated with *summa cum laude*

TEACHING

ALGORITHMIC GAME THEORY (CS 6840)   Fall 2024
Cornell University | *Ithaca, New York*

ALGORITHMS (CS 6820)
Cornell University | *Ithaca, New York*

Fall 2023

CRYPTOGRAPHY (CS 4830/5830)
Cornell University | *Ithaca, New York*

Spring 2023

MULTIVARIABLE CALCULUS FOR ENGINEERS (MATH 1920)
Cornell University | *Ithaca, New York*

Fall 2022

- Head TA

INTROUCTION TO PYTHON (CS 1110)

Fall 2018-Spring 2019, Spring 2022

Cornell University | *Ithaca, New York*

CALCULUS FOR ENGINEERS (MATH 1910)
Cornell University | *Ithaca, New York*

Fall 2021

DECISION THEORY (ECON 6760/CS 5846)
Cornell University | *Ithaca, New York*

Spring 2021

REASONING ABOUT UNCERTAINTY (CS 6766)
Cornell University | *Ithaca, New York*

Fall 2019

MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE (CIS 160)

Spring 2016 - Spring 2018

University of Pennsylvania | *Philadelphia, Pennsylvania*

CHEMISTRY

Fall 2013 - Spring 2014

Douglas County High School | *Castle Rock, Colorado*

EXPERIENCE

SOFTWARE ENGINEERING INTERN
Dish Network | *Littleton, Colorado*

2017

- Reworked menu search features, moving from C to SQL for cloud storage

SOFTWARE ENGINEERING INTERN
Echostar Corporation | *Englewood, Colorado*

2014

- Developed UI for set-top boxes

ACTIVITIES

Awards
- Cornell CS Teaching Award, Spring 2022
- Max Mintz Undergraduate TA Hall of Fame, 2018
- Phi Beta Kappa, 2018
- Dean's List, Fall 2015 - Spring 2018

Programs
- Academic Excellence Workshops content liason
- SIAM student member
- Cornell Mathematics Teaching Seminar
- Research Peer Advisor, Penn CURF

PUBLICA-TIONS

Articles **S. Ong**, S. Ma and D. Kozen (2024a). "Equivalences for Probabilistic Multiset Automata". In: *In Progress*.

S. Ong, S. Ma and D. Kozen (2024b). "Probability and Nondeterminism with Multiset Semantics". In: *Submitted*.

TALKS

REVIEW SYSTEMS AND PROBABILISTIC AUTOMATA   **2022**
Ithaca, New York

PROMOTING CREATIVE REASONING VIA GOOD QUESTIONS   **2022**
Ithaca, New York

• with G. Nair
PROBABILISTIC KLEENE ALGEBRA   **2024**
Ithaca, New York

SKILLS

● ● ●   LaTeX, Python, Java, Microsoft Office, Gradescope

● ● ○   C, MATLAB, SQL, Qualtrics

● ○ ○   Javascript, Coq, OCaml, Assembly

Languages
• English (native)
• Mandarin (basic)
• German (basic)