Cheng Zhang

Curriculum vitae

Education

2018 — Now **Doctor of Philosophy, Computer Science**, Boston University, Boston, MA.
Research Interests: Algebra, Program Sematics, Program Logic, Category theory

2014 — 2018 **Bachelor of Art, Mathematics**, *with department honor, magna cume laude*, Wheaton College, Norton, MA.
Minor in Computer Science and Economics. Major GPA: 3.87, Overall GPA: 3.83
Honor Thesis: King in Generalized Tournaments.
Honors and Fellowships: Dean's Lists, 2014, 2015, 2016, 2017, 2018; Wheaton Fellows, 2016; Faculty-Student Research Awards, 2017

2016 — 2017 **Study Aboard, Economics**, London School Of Economics, London, United Kingdom.

Publications

2018 **Cheng Zhang**, *King in Generalized Tournaments*, Wheaton College Honor Thesis.

2018 **Cheng Zhang, Weiqi Feng, Emma Steffens, Alvaro de Landaluce, Scott Kleinman, Mark D. LeBlanc**, *Lexos 2017: Building Reliable Software in Python*, Conference for Computing in Small Colleges, UNH-Manchester.

Talks

2020 **Mark Lemay, Cheng Zhang, William Blair**, *Developing a Dependently Typed Language with Runtime Proof Search (Extended Abstract)*, The workshop on Type-Driven Development.

2018 **Cheng Zhang, Mark D. LeBlanc**, *Lexos 2017: Building Reliable Software in Python*, Conference for Computing in Small Colleges, UNH-Manchester.

2018 **Cheng Zhang**, *Kings in Quasi-transitive Oriented Graph*, Wheaton Summit For Woman In STEM.

Research Projects

2020 — Now **Incorrectness Logic**.

Studying Algebraic formulation of Incorrectness Logic using extension of Kleene Algebra

2017 — 2018 **Mathematics Honor Thesis**, *Wheaton College Mathematics Department*, Norton, MA.

Studies kings in generalization of tournament, with a special focus on quasi-transitive oriented graph. I have shown that all the quasi-transitive oriented graph can be condensed into a tournament via tie component condensation. Then I have also shown that tie component condensation of quasi-transitive oriented graph is the most efficient condensation to tournament.

2015 — 2018 **Software Leader**, *Lexomics Research Group, Wheaton College*, Norton, MA.

- Lead the development of Lexos, a web app for text analysis workflow.
- Help the team to adopt modern software development paradigm and workflow, including unit testing and pull request.
- produced a new python style guide for the project, based on functional programming paradigm and the various PEP style guide.
- Designed a new model architecture for ease of managing side-effect for the project.

Employment

2019 — Now **Research Assistant**, *Boston University*, Boston, MA.

2019 — 2021 **Teaching Fellow**, *Boston University*, Boston, MA.

- 2020 Fall, CS 230: Principle of Programming Language, with Professor Marco Gaboardi and Lecture Abbas Attarwala
- 2020 Summer, CS 111: Introduction to Computer Science 1, with Lecture John Magee
- 2020 Summer, CS 112: Introduction to Computer Science 2, with Lecturer Christine Papadakis-Kanaris
- 2020 Spring, CS 235: Algebraic Algorithm, with Professor Leonid Levin
- 2019 Fall, CS 132: Geometric Algorithm, with Lecture Abbas Attarwala
- 2019 Spring, CS 230: Principle of Programming Language, with Professor Wayne Snyder

2019 **Grader**, *Boston University CS 511 Formal Method*, Boston, MA.

2015 — 2018 **Student Technician**, *Wheaton College Technology Support*, Norton, MA.

2017 — 2018 **Grader**, *Wheaton College MATH 241 Theory of Probability*, Norton, MA.

Honors

2018 — Now A member of Phi Beta Kappa.

2018 Madeleine F. Clark Wallace Mathematics Prize.
Fred Kollett Prize in Mathematics & Computer Science.
Phi Beta Kappa Graduate Scholarship.