Kevin Shu

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84 Cheesespring Road
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Education

PhD Student, Georgia Institute of Technology, Atlanta, GA
August 2019-Present

- In the Algorithms, Combinatorics, and Optimization program, under the Mathematics department.
- Advised by Grigoriy Blekherman.
- Research interests mostly involve semidefinite programming and applications of sparse semidefinite programming to industrial applications.

B.S. in Mathematics, Computer Science, California Institute of Technology, Pasadena, CA, June 2018
GPA 3.9

Research and Work Experience

Research Assistantship, Georgia Tech, Atlanta, GA
Summer 2020

- Funded in part by NSF grant DMS-1901950 and the ACO department.
- Advised by Grigoriy Blekherman.

Research in Causality, Caltech, Pasadena, CA
Aug 2018-Jul 2019

- Developed theory of causality and developed bounds on probability distributions.
- Applied geometric and linear programming in search of bounds.
- Advised by Leonard Schulman.

Research in Linguistics, Caltech, Pasadena, CA
Aug 2017-Jul 2018

- Explored connections between linguistics and physical models.
- Used algebraic geometry to compute phylogenetic trees.
- Advised by Matilde Marcolli.

Work Experience

Full-time Software Engineer, Google, Mountain View, CA
August 2018-July 2019

- Full stack web development for a data labelling service (Crowd-Compute)
- Lead an initiative to update authentication/authorization to more modern technologies.
- Added a major feature for tracking work in the system.
- Managed production releases and infrastructure issues.
- Worked with C++, Java.

Software Engineering Intern, Google, Mountain View, CA
Aug 2018-Jul 2019

- Gathered data from online sources by parsing Reddit pages.
- Built a machine learning model to provide movie recommendations.
- Worked with C++, Python.

Teaching Experience

Linear Algebra Teaching Assistant, Georgia Tech, Atlanta, GA
Aug 2018-Dec 2018

- Graded homework and gave recitations in first year linear algebra course.
- Covered introductory linear algebra material.

Advanced Algorithms Teaching Assistant, Caltech, Pasadena, CA
Jan 2018-Mar 2018

- Graded homework and gave recitations in graduate level algorithms course.
- Covered multiplicative weights learning, streaming algorithms, spectral graph theory, semidefinite programming.

Linear Algebra Teaching Assistant, Caltech, Pasadena, CA
Sep 2017-Dec 2017

- Graded homework for the applied linear algebra course, including topics like linear algebra, including spectral graph theory, polynomial interpolation, and principal components analysis.
- Gave 1 hour of office hours per week.

Introduction to Algorithms Teaching Assistant, Caltech, Pasadena, CA
Jan 2017-Mar 2017

- Graded homework and gave recitations in undergraduate level algorithms course.
- Covered graph algorithms, greedy algorithms, dynamic programming, matroids.

Leadership Activities

Senior Class President, Caltech, Pasadena, CA
2018-2019

- Organized 200 seniors for events such as class trips and senior gifts.
- Implemented a new resource scheduling system based on algorithmic techniques that made a process that used to take several days take only a couple hours.
- Organized rooms, dining, and transportation for over a hundred students for the class trip, including finding funding from a variety of sources in order to ensure the trip was possible.
- Acted as a liason between faculty and students.

Board of Control Secretary, Caltech
2017

- Handled issues relating to academic dishonesty across the school.
- Investigated cases of academic dishonesty .
- Determined, in 20 cases of academic dishonesty, what response was required by the school, in some cases involving student suspensions.
- Organized meetings, gathered evidence, and acted as liason between the faculty and students.

Outreach Activities

First Year Mentor, Georgia Tech, Atlanta, Georgia
2020-2021

- Aided 2 first year graduate students in adjusting to graduate school during pandemic.
- Gave advice about course scheduling, time managagement, which helped students succeed in courses.

Directed Reading Program Mentor, Georgia Tech, Atlanta, Georgia
2020-2021

- Read through lecture notes on game theory with an undergraduate student
- Supervised project involving studying games of imperfect information with chance.

Academic Honors	2018 National Science Foundation Graduate Research Fellowship Recipient 2018 Georgia Institute of Technology President's Fellowship Recipient
Computer Skills	Languages: C++, Java, Python Software: Flask server development, LaTeX