

**Caleb Stanford**  
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### Research Interests

- ▶ Programming languages and systems for data stream processing
- ▶ Formal verification
- ▶ Logical foundations of computing

### Education

- ▶ **University of Pennsylvania**  
PhD student, computer science. Fall 2016 – present. Advisor: Rajeev Alur.
- ▶ **Brown University**  
ScB, mathematics and computer science. Fall 2013 – Spring 2016.
- ▶ **Brigham Young University**  
Fall 2012 – Spring 2013.

### Publications

- ▶ **Data-trace types for distributed stream processing systems**, K. Mamouras, C. Stanford, R. Alur, Z. Ives, and V. Tannen. Programming Language Design and Implementation (PLDI), June 2019.
- ▶ **Modular quantitative monitoring**, R. Alur, K. Mamouras, and C. Stanford. Principles of Programming Languages (POPL), January 2019.
- ▶ **Interfaces for stream processing systems**, R. Alur, K. Mamouras, C. Stanford, and V. Tannen. Invited contribution to *Principles of Modeling: Festschrift Symposium in honor of Edward A. Lee*, October 2017.
- ▶ **Automata-based stream processing**, R. Alur, K. Mamouras, and C. Stanford. International Colloquium on Automata, Languages, and Programming (ICALP), July 2017.

### Unpublished Research

- ▶ **Streamable regular transductions**, R. Alur, D. Fisman, K. Mamouras, M. Raghothaman, and C. Stanford. In submission, June 2018.
- ▶ **Context-directed reversals of signed permutations**, H. Li, J. Ramsey, M. Scheepers, H. Schilling, and C. Stanford. Outstanding presentation award for poster presentation at the Joint Math Meetings (JMM), January 2016. Travel grant from JMM awarded.

### Educational Experience

- ▶ **Marktoberdorf Summer School** — logical methods for safety and security of software systems. August 2–11, 2017. Accepted with travel grant awarded.
- ▶ **Lipa Summer School** — topics connected to logic in computer science. July 3–6, 2017, University of Warsaw.
- ▶ **NASSLLI** — North American Summer School on Logic, Language, and Information. July 9–16, 2016, Rutgers University. Scholarship awarded.

### Programming Languages

- ▶ Python (fluent), C++ (fluent), Coq (fluent), OCaml, Java
- ▶ Tools: Git, Alloy (a constraint solver for system design),  $\LaTeX$

## Miscellaneous Achievements

- ▶ Co-founder of the **Utah Math Olympiad**. The sixth annual contest was held in March 2018.
- ▶ **Putnam math exam:**

Year	Score	National Rank
2012	30	319
2013	40	136
2014	40	150
2015	30	163.5
- ▶ **Math GRE:** Score 900; 97th percentile.
- ▶ **ACM ICPC:** International Collegiate Programming Contest. Qualified for the Northeast North America regional round, fall 2014 and fall 2015. 3rd place at qualifier round and 5th place at regionals in 2015, as a team of 3.

## Teaching

- ▶ **Graduate TA** for CIS 511, Theory of Computation (Spring 2018)
- ▶ **Graduate TA** for CIS 500, Software Foundations (Fall 2017)
- ▶ **TA** for online courses at the Art of Problem Solving (AoPS) (Summer 2016)
- ▶ **L<sup>A</sup>T<sub>E</sub>X workshop teacher** for the Brown Science Center (Spring 2014 – Spring 2016)
- ▶ **Undergraduate TA** for CS 51 Models of Computation (Fall 2015)
- ▶ **Undergraduate TA** for CS 22 Discrete Structures and Probability (Spring 2016)
- ▶ **Math Resource Center Tutor** at Brown (Fall 2014 – Fall 2015)
- ▶ **Student Teacher** for the BYU Math Circle (Fall 2012 – Spring 2013)

## External Links

- ▶ My website: <https://cis.upenn.edu/~castan>
- ▶ Utah Math Olympiad: <https://utahmath.org>