Caleb Stanford

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Research Interests

- Programming systems for data 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.

Papers and Publications

- **Data transducers for runtime monitoring**, R. Alur, K. Mamouras, and C. Stanford. In preparation, June 2018.
- **Streamable regular transductions**, R. Alur, D. Fisman, K. Mamouras, M. Raghothaman, and C. Stanford. In submission, June 2018.
- **Data-trace types for distributed stream processing systems**, K. Mamouras, C. Stanford, R. Alur, Z. Ives, and V. Tannen. Draft, November 2017.
- **Interfaces for stream processing systems**, R. Alur, K. Mamouras, C. Stanford, and V. Tannen. *Principles of Modeling*: Festschrift Symposium in honor of Edward A. Lee, Robert S. Pepper Distinguished Professor. Berkeley, California, October 2017. Proceedings forthcoming.
- **Automata-based stream processing**, R. Alur, K. Mamouras, and C. Stanford. 44th International Colloquium on Automata, Languages, and Programming (ICALP), July 2017.
- Outstanding presentation award for "Context-directed reversals of signed permutations", H. Li, J. Ramsey, M. Scheepers, H. Schilling, and C. Stanford. 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
- Specialized tools: Alloy (a constraint solver for system design), LaTeX

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)
- **LaTeX 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`