

**Joseph Scott**  
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## Education

- **University of Waterloo, Ph.D (in pursuit)** Waterloo, ON  
*Ph.D in Computer Science, Supervised by: Vijay Ganesh, Pascal Poupart* Current
- **University of Waterloo, M.Math** Waterloo, ON  
*Master of Mathematics in Computer Science* 2018
- **Ohio University, B.S** Athens, OH  
*Bachelors of Science in Computer Science* 2015
- Honored as the Top Graduating student of the Russ College of Engineering
- **Ohio University, B.S** Athens, OH  
*Bachelors of Science in Mathematics* 2015

## Research Interests

My research interests are in formal methods and automated reasoning, logic and complexity, and artificial intelligence. Specifically: SAT/SMT solving and floating-point SMT and corresponding proof complexity. Program verification and scientific software verification. Machine learning applied to automated reasoning and formal methods, and conversely, automated reasoning applied to artificial intelligence.

## Papers and Projects

- *An algorithm selection approach to QF\_FP*  
Joseph Scott, Pascal Poupart, Vijay Ganesh  
SMT '19
- *Verifying Mutable Systems*  
Joseph Scott  
Masters Thesis, Supervised Dr. Richard Treffler, 2018
- *A Propagation Rate based Splitting Heuristic for Divide-and-Conquer Solvers*  
Saeed Nejati, Zack Newsham, Joseph Scott, Jia Hui Liang, Catherine Gebotys, Pascal Poupart, and Vijay Ganesh  
SAT '17

## Awards and Honors

- The most Outstanding Senior of the Russ College of Engineering (1st of ~400 graduating students) (\$500) (2015)
- Amazon AWS Resource Allocation Award (shared with Vijay Ganesh, Murphy Berzish, Saeed Nejati, Curtis Bright)(\$145,000)
- Ohio University Outstanding Junior of Computer Science (Top 3 of ~ 75) (\$500)
- University of Waterloo International Masters Student Award (2015) (\$5,000)
- University of Waterloo International Doctoral Student Award (2018) (\$5,000)
- University of Waterloo First Year Scholarship (2015) (\$5,000)
- 1st (of ~35) place in Ohio University Checkers AI tournament (2014) (\$100)

## Experience

- **Instructional Assistant** University of Waterloo  
*Assist in Course Management and Lecturer* 2016-current
  - CS 245 - Logic, 9 appointments
- **Teaching Assistant** University of Waterloo  
*Assist Teach, Mark, and Proctor Exams for undergraduate classes* 2015-2016
  - SE 212 - Logic for Software Engineers, 1 appointment
  - CS 341 - Algorithms, 1 appointment
  - CS 245 - Logic, 2 appointments
- **Lab Instructional Assistant** Ohio University  
*Computer Science 2(~40 students)* 2015
- **NSF Undergraduate Researcher** Ohio University  
*Undergraduate Researcher* 2013-2015
  - Supervised by Dr. Avinash Kodi
- **University College Co-Instructor** Ohio University  
*Co-Instruct Freshman University College Course* 2014
- **Department of Defense Researcher** Florida Intl' University  
*Undergraduate Researcher* 2014
  - Advised by Dr. Shaolei Ren, Dr. Nikki Pissinou

## Participation and Service

### Events

- SAT/SMT/AR Summer School '19 – Attendee
- Stephen Cook Symposium – Attendee
- Waterloo ML + Security + Verification Workshop – Student Organizer and Attendee

### External Reviewer

- IJCAI '19
- Computing Surveys Journal
- ICISS '18, CP '18, CAV '18

### Association for Computing Machinery

- Ohio University Officer 2011-2013
- Ohio University ACM President 2013-2015
- Ohio University Local Chapter Programming Contest Co-author and Co-organizer
- National Member

### Institute of Electrical and Electronics Engineers

- Member since 2012