

# SOFIA LEMONS

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- Research Interests** Artificial intelligence, heuristic search, computer science education, universal design for learning, active learning, guided inquiry.
- Education**
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|--|--------------------------------|
| University of New Hampshire  | PhD in Computer Science, ABD   |
| University of New Hampshire<br>Secondary Math  | M.A. in Teaching, 2013         |
| Ball State University  | M.S. in Computer Science, 2007 |
| Thesis: <i>Potential Problem Areas of Design Metrics for Object Oriented Systems</i> |                                |
| Advisor: Paul Gestwicki  |                                |
| Ball State University  | B.S. in Computer Science, 2005 |
- Grants, Honors, & Awards**
- USNH Open Educational Resources Ambassador, 2016-2017  
Program to support faculty in integrating OER and open pedagogy into their courses.
- Robert Noyce Teacher Scholarship, 2011  
NSF-funded program for STEM students/professionals to train as teachers.
- Departmental Scholarship (UNH Education Department), 2011
- Teaching Experience**
- |  |                           |                                     |
|--|---------------------------|-------------------------------------|
| University of New Hampshire  | <i>Lecturer</i>           | Spring 2016-present                 |
| Introduction to Computer Science I & II, Living in a Networked World, Computer Architecture. |                           |                                     |
| Paulo Freire Social Justice Charter School   | <i>Math Teacher</i>       | August 2013-Spring 2016             |
| High school mathematics and computing.   |                           |                                     |
| University of New Hampshire  | <i>Instructor</i>         | Fall 2011, Summer 2012, Summer 2013 |
| Introduction to Computer Science II, Programming Language Concepts.                          |                           |                                     |
| University of New Hampshire  | <i>Teaching Assistant</i> | January 2010-December 2010          |
| Introduction to Artificial Intelligence, Introduction to Computer Science II.                |                           |                                     |
| Ball State University  | <i>Teaching Assistant</i> | August 2006-May 2007                |
| Introduction to Computer Science.  |                           |                                     |

**Professional Experience** University of New Hampshire      *Research Assistant*      August 2007–May 2010  
Research in bioinformatics and heuristic search.

Ball State University      *Research Assistant*      August 2006–December 2006  
Research in software design metrics.

**[Some previous publications appear under the name “Seth Lemons”]**

**Journal Articles** Ethan Burns, Sofia Lemons, Wheeler Ruml and Rong Zhou, “Best-First Heuristic Search for Multicore Machines” *Journal of Artificial Intelligence Research*, , 39, pp. 689–743, 2010

**Refereed Conference Publications** Ethan Burns, Seth Lemons, Rong Zhou and Wheeler Ruml, “Suboptimal and Anytime Heuristic Search on Multi-Core Machines” *Proceedings of the Seventeenth International Conference on Automated Planning and Scheduling (ICAPS-09)*

Ethan Burns, Seth Lemons, Rong Zhou, and Wheeler Ruml, “Best-First Heuristic Search for Multi-Core Machines” *Proceedings of the Twenty-first International Joint Conference on Artificial Intelligence (IJCAI-09)*

**Refereed Workshop Publications** Ethan Burns, Sofia Lemons, Rong Zhou and Wheeler Ruml, “Parallel Best-First Search: The Role of Abstraction” *Proceedings of the AAAI-10 Workshop on Abstraction, Reformulation, and Approximation (WARA-10)*

Seth Lemons, J. Benton, Wheeler Ruml, Minh Do, and Sungwook Yoon, “Continual On-line Planning as Decision-Theoretic Incremental Heuristic Search” *Proceedings of the AAAI 2010 Spring Symposium on Embedded Reasoning*

Ethan Burns, Seth Lemons, Rong Zhou, and Wheeler Ruml, “Parallel Best-First Search: Optimal and Suboptimal Solutions” *Proceedings of the Second International Symposium on Combinatorial Search (SoCS-09)*

**Books** *Living in a Networked World*  
OER textbook compiled/created for general education (Discovery) course of the same name at the University of New Hampshire.

**Speaking Engagements** Spark Teacher Education Seminar, 2019  
Panel on labor issues in K-12 education

New England Science Boot Camp for Librarians, 2019  
”Social Justice in Computer Science: How Algorithms can Amplify Bias or Help Reduce It”

Service  
Activities

Girls Who Code, 2014-2016

Lead/advised a local chapter of Girls Who Code at the Paulo Freire Social Justice Charter School.

Computer Science Education Reading Group, 2016-present

Organized and lead weekly meetings of a group of faculty and students in reading and discussing research and writing about educational methods in Computer Science.

Seacoast Interfaith Sanctuary Committee, 2017-present

Participated on behalf of Dover (NH) Friends Meeting in interfaith committee supporting immigrants by providing physical sanctuary within places of worship.

Waysmeet Center Board of Directors, 2019-present

Served on board of interfaith campus ministry to the University of New Hampshire & surrounding community.

Farmington High School Robotics Team, 2019-present

Coding mentor for students and staff involved in FIRST Robotics competitions.

Citizenship

U.S.A.