Zachary Sarver

Resume

✉ *Zachary.Sarver@gmail.com*
http://zacksarver.rocks

Education

2010–2016 **Doctor of Philosophy in Mathematics**, *Auburn University*, Alabama, Dissertation: *Extensions of Monotonicity Results to Semisimple Lie Groups*.

2005–2009 **Bachelor of Science in Mathematics and Computer Science**, *Jacksonville State University*, Alabama, Magna cum laude.
Distinguished Graduate in Mathematics, Special Honors in Computer Science

Experience

August 2016–Present **Adjunct Professor**, *Department of Mathematics and Statistics*, Auburn University, Alabama.
- Currently teaching
  - MATH 1120 - Pre-calculus Algebra, and
  - MATH 1130 - Pre-calculus Trigonometry.
- Teaching a variety of international students through the AU Global program.

June 2016–Present **Software Developer**, *Auburn Online*, Auburn University, Alabama.
- Design and implementation of interactive educational software to meet specific learning goals.
- Work is primarily in C# using the Unity Engine.
- Also responsible for basic 3D modeling and animation.

2010–May 2016 **Graduate Teaching Assistant**, *Department of Mathematics and Statistics*, Auburn University, Alabama.
- Oversaw computer-based pre-calculus classes.
- Worked as a tutor for Pre-Calculus, Calculus I, Calculus II, and Calculus III.
- Served as the instructor of record for six courses, several more than once: Pre-Calculus, Calculus with Business Applications I, Calculus I, Calculus II, Calculus III, Linear Algebra
  - Wrote lectures, tests, assignments, and finals for every course taught.
  - Worked with several students so that they could receive honors credit for an otherwise non-honors class.
  - Excellent student evaluations. Detailed records available upon request.
  - Taught using methods from Moore-style teaching and inquiry based learning

2008–2009 **Programmer**, *Envizions*, Anniston, Alabama.
Worked on a custom user interface and associated daemons and helper programs in C, C++, and Ruby. Envizions was a startup based in Anniston, AL that produced Linux-based set-top boxes for enjoying games and media on your TV.

2007–2008 **Undergraduate Research Assistant**, *Jacksonville Statue University*, Jacksonville, Alabama.
Aided Dr. Monica Trifas and Dr. Ming Yang in their research in multi-reference frame video encoding. Reviewed code and implemented functions in C.

2006–2008 **Tutor**, *ACE Tutoring Center*, Jacksonville, Alabama.
The Academic Center for Excellence is a Jacksonville State University program for providing free tutoring to JSU undergrades. Tutored undergraduate mathematics and computer science students primarily, as well as the occasional English Composition student.

Achievements

2014 **Winner, City of Auburn Municipal Hackathon**.
For "Is Toomer's Corner Being Rolled?", a webapp that uses image recognition techniques on still images periodically captured from a municipal webcam to determine if Toomer's Corner is being rolled, an Auburn football victory tradition.

2009 Graduated Jacksonville State University magna cum laude with honors

2005 Full scholarship to Jacksonville State University

2005 Valedictorian, Sacred Heart Catholic School, Anniston, Alabama

Computer skills

Basic Perl, Go, Objective-C, MOS 6502 Assembly, Zilog Z80 Assembly, AngularJS, GAP

Intermediate C++, Ruby, Java, Rust, html/css, LaTeX, Microsoft Windows, POSIX libraries, SDL, C#

Advanced C, Python, Haskell, Linux

Communication Skills

2010-2016 Instructor at Auburn University

2015 Presented on my research at the 5th International Conference on Matrix Analysis and Applications at Nova Southeastern University

2015 Presented on on the category of graphs at the Southern Combinatorics, Graphy Theory, and Game Theory Mini-conference at Lamar University

2015 My paper *An Extension of Wang-Gong Monotonicity Result to Semisimple Lie Groups* accepted for publication in *Special Matrices*

2015 Presented at College of Science and Mathematics interdisciplinary colloquium

2015 Impromptu five-minute talk at Legacy of R.L. Moore conference in Austin, TX

2014 Gave talk at the Graduate Student Combinatorics Conference

Interests

- Programming languages
- Video games
- Science fiction novels
- Puzzles
- Multilinear algebra
- Sega
- Music
- Puzzle design