

Dr. Derek Williams

Lecturer

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Education

- Ph.D., Computer Science, University of Nevada, Las Vegas, 2017
- M.Eng., highest honors, Computer Engineering & Computer Science, University of Louisville, 2004
- B.Sc., highest honors, Computer Engineering & Computer Science, University of Louisville, 2003

Teaching Interests

Programming languages, data structures, algorithms, automata, cybersecurity, cryptography, coding theory, information theory, artificial intelligence, computational game theory, genetic algorithms

Teaching Experience

Lecturer, University of Nevada, Las Vegas, 2017 – present

- Computer Science I (CS 135), 4 sections
- Computer Science II (CS 202), 4 sections

Graduate Assistant, University of Nevada, Las Vegas, 2012 – 2015

- Introduction to Computers (CS 115), 1 section
- Data Structures (CS 302), 4 sections
- TA and guest lecturer for:
 - Social Implications of Computer Technology (CS 301)
 - Information Security (CS 489/689)
 - Computer Security (CS 448/648)

Instructor, University of Louisville, 2002 – 2004, 2006

- Program Design in C (CECS 121), 5 sections
 - Authored open textbook for this course, *Program Design in C*, 2002
- Selected Programming Language Java (CS 306), 1 section
- Design of File Structures (CECS 335), 1 section
- Design of Operating Systems (CECS 420), 1 section

Supplemental Instructor, University of Louisville, 2001 – 2002

- Engineering Calculus 2 (EAC 102), 1 semester

Engineering Calculus 3 (EAC 201), 2 semesters
Supervisor of all engineering math supplemental instructors

Tutor, University of Louisville, 2000 – 2002

Appointment-based tutoring for dozens of students via Resources for Academic Achievement (REACH)
Drop-in tutoring for undergraduate mathematics courses via Math Resource Center (MRC)

Selected Projects

Blended learning materials, 2017 – present

Development of materials to support a flipped classroom for low level computer science instruction. Materials include a collaborative Wiki and online videos. This work resulted in a round table proposal for the 2018 Intermountain Teaching for Learning Conference.

Vandal Fighter, 2005

Design and implementation of the first anti-vandalism software for Wikipedia: an open source project featuring a highly-configurable GUI, real-time updates, whitelist support, collaborative blacklisting, regular expression support, and import & export of user lists. To reduce server load, a back-end IRC client was implemented from RFC 1459 specifications to interface with site-provided update streams. This work resulted in an award-winning poster for the 2006 Engineers' Days at the University of Louisville.

Relevant Professional Experience

Naval Surface Warfare Center, Intern, 2001 – 2003

Systems programmer for MK 34 Gun Weapon Systems on Arleigh Burke-class destroyers
DoD SECRET security clearance (currently inactive)

Research Interests

computational game theory, probability theory, combinatorics, Monte Carlo simulation, modeling, artificial intelligence, genetic algorithms, logic, cryptography, coding theory, information theory, information security

Service

Graduate & Professional Student Organization (GPSA)

Representative for Department of Computer Science, University of Nevada, Las Vegas, 2013 – 2014

Tau Beta Pi (TBP), National Engineering Honor Society

President of Nevada Beta chapter, University of Nevada, Las Vegas, 2013 – 2014

Successful national appeal for inclusion of university's computer science students for membership
Vice-chair of national constitution & bylaws committee
Introduced and coordinated professional development seminars

Member of national inspection team for Embry-Riddle Aeronautical University in Prescott, AZ
President of Kentucky Beta chapter, University of Louisville, 2003 – 2004

Upsilon Pi Epsilon (UPE), International Honor Society for the Computing and Information Disciplines

Inaugural President, University of Louisville, 2003 – 2004

Coordinated site visit with national representatives for successful charter

Association for Computing Machinery (ACM)

President, University of Louisville, 2003 – 2004

Introduced cyber defense initiative, partnering with the Department of Homeland Security, leading to an award winning poster displayed at the capitol

Introduced local computer programming competitions

Introduced monthly lecture series

Introduced middle school outreach program

Coordinated department involvement with Engineers' Days to win Best Department Award

Won Spirit of Academics Award over more than 200 organizations.

Captain and member of ICPC programming team with two top-3 finishes

Designed and obtained university approval for a competition programming course

Poster: *Application of Algebraic Geometry Constructs to Cryptography*, Engineers' Days

Lecture: *Using LaTeX2e*, ACM Lecture Series

Lecture: *Introduction to Abstract Algebra*, ACM Lecture Series

Student Linux Users Group (S+LUG)

President, University of Louisville, 2003 – 2004

Organized and ran multiple Linux installfests

Maintained a Linux lab for student use

Honors, Awards, and Scholarships

Marjorie & Victor Kunkel Scholarship, 2014

Patricia J. Sastaunik Scholarship, 2014

IEEE Outstanding Computer Engineering & Computer Science Student Award, 2004

ACM Distinguished Student Award, 2004

NSF Graduate Research Fellowship, Honorable Mention, 2004

Raymond I. Fields Award for Leadership & Service, 2003

Upsilon Pi Epsilon Scholarship Award, 2003

Inducted into Upsilon Pi Epsilon (UPE), International Honor Society for the Computing and Information Disciplines, 2003

Inducted into Pi Mu Epsilon (PME), National Mathematics Honor Society

American Society of Naval Engineers James A. Pitt Scholarship, 2003

Inducted into Golden Key International Honor Society, 2002

National Society of Black Engineers Highest Senior GPA Scholarship, 2002

National Society of Black Engineers Highest Sophomore GPA Scholarship, 2001

Inducted into Tau Beta Pi (TBP), National Engineering Honor Society, 2001

Woodford R. Porter Sr. Scholarship, 2000 – 2003

Speed School Alumni Foundation Scholarship, 1999

Challenge for Excellence Scholarship, 1999

United States Academic Decathlon national finals mathematics champion, 1999

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