Russell Feldhausen

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Education

Ph.D. Computer Science   Kansas State University   Expected May 2021
- GPA: 4.0/4.0
- Major Professor: Dr. Daniel A. Andresen

M.S. Computer Science   Kansas State University   May 2018
- GPA: 4.0/4.0
- Major Professor: Dr. Daniel A. Andresen
- Thesis: *Mission to Mars: A Computer Science Curriculum for Middle School STEM Camps*

B.S. Computer Science   Kansas State University   December 2008
- Magna Cum Laude Graduate (GPA: 3.867/4.0)
- Completed College of Engineering Honors Program
- Member of Tau Beta Pi Engineering Honor Society
- Senior Project: AJAX Based Web Form Creator and Database Host System
- Honors Project: Implementing a Two-Phase Algorithm for Solving a Rubik's Cube

Professional Experience

Instructor
Kansas State University - Computer Science   2018-Present
- Developing online undergraduate certificate program in CS
- Developing new online programming curriculum using Codio
- Courses developed may also be used for additional programs such as high school outreach, professional development, and a new BA in CS
- Recording lecture videos and creating automated project assessments
- Teaching online course in system administration

Graduate Teaching Assistant
Kansas State University - Computer Science   2017-2018
- Graded weekly assignments, written papers, and online homework
- Assisted the instructor with course management duties
- Provide ideas and feedback to instructor regarding the course

Instructor | Academic Advisor
CyberCorps: Scholarship for Service (SFS) Program Coordinator
Kansas State University - Computer Science   2012-2017
- Developed and taught courses in introductory computing science and systems admin
- Advised students each semester to choose appropriate courses and find employment
- Recruited and managed students in the SFS cyber security scholarship program
- Met with prospective students and parents to discuss our program at various events
- Assisted with several department outreach and recruiting events
- Advised several student club groups and department open house committee

Computer Support Specialist

Kansas State University - Communications and Ag. Education   2008-2012

- Provided technical support for department & K-State Research and Extension (KSRE)
- Supervised students providing helpdesk services for KSRE across the state
- Designed, evaluated and implemented technology solutions to meet needs
- Created and maintained documentation for systems, software, and processes used
- Assisted with several reorganization efforts and search committees in department

Personal Consulting   2005-2012

- Provided hardware and software purchase consulting, installation and maintenance
- Designed and implemented technology solutions and backup strategies for clients

Honors & Awards

- **Kansas 4-H Distinguished Service Award Recipient**   2013
  - Recognizes volunteer work with the Kansas 4-H program

- **Kansas 4-H Clover Award**   2011
  - Recognizes significant contribution to Kansas 4-H by non-4-H staff

- **Communications and Ag. Ed. Unclassified Employee of the Year**   2011

- **Top Placing in K-State ACM Chapter's Programming Contest**   2009-2011
  - 2nd Place Fall 2009; 1st Fall 2010; 2nd Spring 2011; 3rd Fall 2011

Teaching Activities

Computational Core   2019-Present

- Developing a new set of online courses in programming and software development to begin Fall 2019
- Courses will be offered online using state-of-the-art learning platforms such as Codio, Canvas & Piazza
- Courses will form the basis of a new undergraduate certificate program
- Many courses will contain automated project assessments to increase scalability without additional faculty time
- Courses may be used for other programs such as high school outreach, professional development, and a new BA in CS

CIS 115: Introduction to Computing Science   2013-2017

- Co-created and updated curriculum for this class with other faculty
- Independently taught 24 sections of 30-50 students each over a span of 4 years
- Hired and managed up to 12 undergraduate teaching assistants each semester and directed their work to grade student assignments and provide effective feedback
- Student retention from freshman to sophomore year within the department has increased significantly after the introduction of this course
- Consistently given very high "teacher effectiveness" rating from students (4.8+ / 5.0)
- <u>**Course contents and objectives:**</u>
  - Provide a broad overview of computing science to incoming students
  - Cover the basics of computer programming skills
  - Expose students to a wide variety of computer science research topics
  - Introduce students to teamwork and communication skills needed in field
  - Students write several blog articles to discuss and reflect on important topics
  - Include many guest speakers from CS faculty, campus groups, and industry partners

CIS 225: Personal Computer Systems Administration   2013-2016

- Developed this course as a new offering for information systems majors
- Class curriculum based on my experience as a system administrator on campus
- Hired and managed 2 undergraduate teaching assistants to assist with grading and helping students complete lab assignments.
- Consistently given very high "teacher effectiveness" rating from students (4.8+ / 5.0)
- **Course contents and objectives:**
  - Give students experience working with Windows and Linux systems
  - Introduce students to shell scripting, networking, user management, troubleshooting, and virtual machine software
  - Provide hands-on experience working with many different technologies
  - Prepare students to be competent in any IT field or related areas

CIS 527: Enterprise Systems Administration   2014-2017, 2018-Present

- Developed this course as a new technical elective for all department majors
- Curriculum based on my past experience and new cloud server technologies
- Consistently given high "teacher effectiveness" rating from students (4.6+ / 5.0)
- Redeveloped into an online course in 2018 with new modules added
- **Course contents and objectives:**
  - Students build working server systems using Windows and Linux virtual machines
  - Increase students' ability to search for problem solutions with minimal guidance
  - Explore networked environments mimicking those used in industry
  - Students gain experience working with cloud systems and
  - Expose students to virtual machine software and other IT tools and practices

CIS 595: Information Systems Internship   2014-2017

- Coordinated this class for students completing their required internship
- **Course contents and objectives:**
  - Students gain an approved internship on campus or in industry
  - Students submit regular reports to show they are achieving their goals
  - Students give a final presentation to the department and peers describing the internship and knowledge gained from the experience

CIS 190: Open House Committee   2014-2017

- Developed this course for students interested in presenting at open house
- **Course contents and objectives:**
  - Students collaborate to form teams and create displays for open house
  - Give hands-on experience with teamwork, creativity, and communication skills
  - Explore how to share aspects of computer science with the public

DEN 301: Creative Problem Solving in Engineering   2017

- Co-created new curriculum materials for this course for all engineering disciplines with another engineering faculty member
- **Course contents and objectives:**
  - Explore the decision-making process within engineering and design
  - Expose students to concepts such as neuroscience, bias, and reasoning
  - Students collaborate on teams to design a learning experience for peers

Peer Reviewed Papers & Posters

- Feldhausen, R., Weese, J. L., & Bean, N. H. (2018, Feb). **Increasing Student Self-Efficacy in Computational Thinking via STEM Outreach Programs** *Proceedings of the 49th ACM Technical Symposium on Computing Science Education, SIGCSE '18, Baltimore, Maryland.* 10.1145/3159450.3159593 Acceptance rate: 35%

  2018

- Weese, J. L., & Feldhausen, R. (2017, June). **STEM Outreach: Assessing Computational Thinking and Problem Solving** *Paper presented at 2017 ASEE Annual Conference & Exposition, Columbus, Ohio.* http://peer.asee.org/28845

  2017

- Weese, J. L., Feldhausen, R., & Bean, N. H. (2016, June). **The Impact of STEM Experiences on Student Self-Efficacy in Computational Thinking** *Paper presented at 2016 ASEE Annual Conference & Exposition, New Orleans, Louisiana.* 10.18260/p.26179

  2016

- Bean, N.H., Weese, J.L., Feldhausen, R., & Bell, R. S. (2015, October). **Starting from Scratch: Developing a Pre-Service Teacher Training Program in Computational Thinking.** *Frontiers in Education Conference (FIE), 2015. 32614 2015. IEEE, El Paso, TX.* 10.1109/FIE.2015.7344237

  2015

- Bean, N.H., Bell, R.S., & Feldhausen, R. (2015, April). **Scratching the Surface: First Steps in Preservice Teacher Training on Computational Thinking** *Paper presented at the 2015 annual meeting of the American Educational Research Association, Chicago, Illinois.*

  2015

- Feldhausen, R., Bell, R.S., & Andresen, D.A. (2014, July). **Minimum Time, Maximum Effect: Introducing Parallel Computing in CS0 and STEM Outreach Activities Using Scratch** *Proceedings of the 2014 Annual Conference on Extreme Science and Engineering Discovery Environment (XSEDE '14), Atlanta, Georgia.* 10.1145/2616498.2616568. Acceptance rate: 67%

  2014

- Feldhausen, R., Bell, R.S., Andresen, D.A. (2013, November). **"Introducing HPC to Young Students"** *Poster presented at the International Conference for High Performance Computing, Networking, Storage and Analysis 2013 (SC13), Denver, Colorado.* Acceptance rate: 39%

  2013

Other Selected Papers & Posters

- Feldhausen, R., Bell, R.S., Andresen, D.A. (2013, September). **"Introducing HPC and Multi-Threaded Computing to Middle School Girls using Scratch."** *Poster presented at 2013 Midwest Section Conference of the American Society for Engineering Education (ASEE), Salina, Kansas.*
  3rd Place Award for Best Graduate Poster.

  2013

Invited Talks

- **"Computer Tear-Down Workshop"**
  for K-State ACM Women in Computing (ACM-W)
  o Demonstrated how to disassemble and reassemble a computer
  o Describe how each part of the computer functions
  o Give tips on purchasing new equipment and safety

  2015-2016

- **"Technology Petting Zoo"**   2010-2014,
  adult session at Kansas 4-H Ambassador Training   2016
  - o Hands-on demonstration of new technologies and devices
  - o Focused mainly on 4-H parents' and volunteers' needs and questions

- **"Technology == Change"**   2015
  at Marshall Co. KS Extension Council Board Meeting
  - o Discuss the many links between technology and extension

- **"New Technologies and their Role in the Workplace"**   2011
  guest lecture for K-State New Media Technology (AGCOM 590) class
  - o Covered many upcoming technologies in media and elsewhere
  - o Gave class a better understanding of technology affecting their field

- **"Using Technology Every Day, Everywhere"**   2011
  at KSRE Youth Development Program Focus Team retreat
  - o Discussed a variety of topics important for professional staff
  - o Gave many tips and tricks to use technology in staff's daily routine

- **"Technology Petting Zoo"**   2009
  at Kansas 4-H Foundation's Friends of 4-H Day
  - o Demonstrated new devices and websites to 4-H Foundation donors
  - o Answered questions from donors about how 4-H is using technology

Selected Presentations

- **"Building Creativity"**   2015-
  at Kansas 4-H Youth Leadership Forum   2016
  - o Teach 4-H youth activities and ideas to help build their creativity

- **"Effective Use of Social Media"**   2015
  at Kansas 4-H Ambassador Training
  - o Shared social media tips and ideas with 4-H ambassadors
  - o Discussed topics such as online bullying and social media research

- **"Lessons Learned from Teaching"**   2014
  at National Extension Technology Conference (NETC)
  - o Share tips and tricks for training sessions based on my experience
    teaching

- **Computer support roundtable session**   2009-
  at National Extension Technology Conference (NETC) (with others)   2012
  - o Invite colleagues from other institutions to share advice and ideas
  - o Helped moderate discussion and coordinate session

- **"Cool Computer Support Tools"**   2012
  at National Extension Technology Conference (NETC) (with others)
  - o Share tools used in our office for computer support and maintenance

- **"AJAX Based Web Form Creator and Database Host System"**   2008
  Senior Project Presentation
  - o Presented information gained from reviewing existing papers
  - o Described and demonstrated how to use the system created
  - o Gave information on possible future work and improvement on project

- **"Implementing a Two-Phase Algorithm for Solving a Rubik's Cube"** 2008
  Honors Project Presentation
    o Described research on Rubik's cube algorithm found online
    o Explained how I implemented that algorithm independently in Java
    o Showed how completed algorithm was designed to be efficient and demonstrated its use

Service Activities

- **Reviewer for ACM Special Interest Group on Computer Science Education (SIGSCE)** 2016-Present

- **Faculty Co-Advisor for Kansas Gamma Chapter of Tau Beta Pi** 2016-2017

- **Faculty Advisor for K-State Web Development Club** 2015-2017

- **Kansas STARBASE Program** 2015-2017
    o Presented sessions about computer programming for Kansas youth
    o Introduced high performance computing and led tours of the Beocat supercomputer at K-State

- **Faculty Co-Advisor for K-State Association for Computing Machinery (ACM) Student Chapter** 2014-2017

- **Computer Science Department Open House Advisor** 2013-2017
    o Coordinated department student groups and events for open house
    o Worked with student led committee to promote department

- **Computer Science Undergraduate Advising & Recruitment Cmte.** 2013-2017
    o Discussed and provided guidance on issues related to recruiting and advising undergraduate students in computer science

- **Kansas 4-H Discovery Days** 2014-2016
    o Taught classes on programming and computer science to 4-H teens

- **USD 383 Summer STEM Camp** 2014-2016
    o Collaborated with teachers from USD 383 (Manhattan) and K-State College of Education students to develop curriculum materials
    o Taught 4 weeks of classes to grade and middle school students
    o Trained teachers to be more comfortable teaching programming
    o Collected research data to rate effectiveness of the course

- **Kansas 4-H Photography Judge** 2014-Present
    o Provided ratings, critiques and feedback to youth 4-H photographers at many 4-H events throughout the year
    o Met with 4-H youths in person to discuss how to improve their work

- **K-State Office for the Advancement of Women in Science and Engineering (KAWSE) GROW & EXCITE Outreach Programs** 2013-2015
    o Presented lessons about computer science and high-performance computing to middle and high school girls