

Stuart Steiner

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RESEARCH INTERESTS

The Internet of Things and Smart Grid and water treatment security, especially related to detection and incident response; cybersecurity education; web security applied to both front-end/back-end security vulnerabilities

EDUCATION

Doctor of Philosophy in Computer Science, 2018

University of Idaho, Moscow, ID

Dissertation Topic: *A Semantic Least Privilege and Semi-Automated Approach to Preventing Cyber Attacks on Web Applications*

Master of Science in Computer Science, 2001

Eastern Washington University, Cheney, WA

Thesis Topic: *An Introduction to Embedded Linux Programming for a Personal Digital Assistant*

Bachelor of Science in Business Management and Business Finance, 1991

Montana State University – Billings, Billings, MT

Summa Cum Laude: 3.93 GPA

ACADEMIC EXPERIENCE

Assistant Professor, September 2020 – Present

Department of Computer Science and Electrical Engineering, Eastern Washington University

Senior Lecturer, September 2006 – August 2020

Department of Computer Science, Eastern Washington University

Graduate Instructor, August 2010 – May 2011

Department of Computer Science, University of Idaho

Graduate Teaching Assistant, August 2008 – May 2010

Department of Computer Science, University of Idaho

Lecturer, September 2001 – August 2006

Department of Computer Science, Eastern Washington University

Graduate Instructor, September 1997 – August 2001

Department of Computer Science, Eastern Washington University

PROFESSIONAL EXPERIENCE

Visiting Scholar, May 2000 – September 2000

National Aeronautics and Space Administration

Developer on various projects utilizing a Beowulf High Performance Computing Cluster

Information Technology Consultant, June 1999 – September 1999

Eastern Washington University Office of Information Technology

Integrated Python scripts into IBM VAX for various projects including virus scanning of emails

Web Developer, June 1999 – September 1999

Contract Positions

Developer on various websites utilizing JavaScript, PHP and Adobe Flash

Software Developer, June 1998 – September 1998

Soph-Ware Associates

Developer on secure XML and HL7 projects; utilized Java, Visual Basic, C, and C++

PUBLICATIONS

Refereed Journal Publications

Stu Steiner, Matthew J Kirkland, and Daniel Conte de Leon (2021), *vWaterLabs: Developing Hands-On Laboratories for Water-focused Industrial Control Systems Cybersecurity Education*, The Journal of Computing Sciences in Colleges, vol. 36, no. 10, pp. 30-36

Bill Clark, Genevieve Orr, Jerry Rosenberg, Terrel Smith, Stuart Steiner, and Scott A, Wallace (2007), *Game Development Courses in the Computer Science Curriculum*, The Journal of Computing Sciences in Colleges, vol. 23, no. 2, pp. 65-66

Stuart Steiner (2001), *Building and installing a Beowulf cluster*, The Journal of Computing Sciences in Colleges, vol. 17, no. 2, pp. 78-87

Refereed Book Chapters

Richard A. Sevenich, Stuart Steiner, and Paul H. Schimpf (2000), *An Introduction to Embedded Programming in a Linux Environment*, Lineo Corp

Refereed Conference Proceedings

Stuart Steiner, Ibukun Oyewumi, and Daniel Conte de Leon (2021), *MAHIVE: Modular Analysis Hierarchical Intrusion Detection System Visualization Event Cybersecurity Engine for Cyber-Physical Systems & Internet of Things Devices*, 54th Hawaii International Conference on System Sciences, Kauai, HI

Stuart Steiner and Ginelle Hustrulid (2018), *Magpie Application: An Interdisciplinary Entrepreneurial Endeavor*, Third International Conference on Communication and Media Studies and the Communication and Media Studies Research Network, Berkeley, CA

Stuart Steiner, Daniel Conte De Leon, and Ananth A. Jillepalli (2018), *Hardening Web Applications Using a Least Privilege DBMS Access Model*, ACM 2018 Third Annual Cybersecurity Symposium, Coeur d'Alene, ID

Ananth A. Jillepalli, Daniel Conte de Leon, Stuart Steiner, Fredrick T. Sheldon, and Michael Haney (2017), *Hardening the Client-side: A Guide to Enterprise-level Hardening of Web Browsers*, IEEE 15th International Conference on Dependable, Autonomic and Secure Computing, 15th International Conference on Pervasive Intelligence and Computing, 3rd International Conference on Big Data Intelligence and Computing and Cyber Science and Technology Congress (DASC/PiCom/DataCom/CyberSciTech), Orlando, FL

Stuart Steiner, Daniel Conte de Leon, and Jim Alves-Foss (2017), *A Structured Analysis of SQL Injection Runtime Mitigation Techniques*, 50th Hawaii International Conference on System Sciences, Kona, HI

Andrew Scholtz, Nigel Davies, Tristan Lehmbeker, Rachelle Boyette and Stuart Steiner (2017), *An In-House Digital Advancement of Geology 100 Labs*, 2017 Geological Society of America Annual Meeting, Seattle, WA

Ananth A. Jillepalli, Daniel Conte de Leon, Stuart Steiner and Frederick T. Sheldon (2016), *HERMES: A High-Level Policy Language for High-Granularity Enterprise-Wide Secure Browser Configuration Management*, 2016 IEEE Symposium Series on Computational Intelligence, Athens, Greece

Jim Alves-Foss, Jia Song, Andrew S. Amack, Lawrence Kerr, and Stuart Steiner (2015), *Evaluating the Use of Security Tags in Security Policy Enforcement Mechanisms*, 48th Hawaii International Conference on System Sciences, Honolulu, HI

Stuart Steiner, Linda Kieffer, and Stacey Roestel (2005), *Moving the Creation of Learning Objects Beyond the CS 1 Environment*, Proceedings of the World Conference on Educational Multimedia, Hypermedia and Telecommunications, Montreal, Quebec

Linda M. Kieffer and Stuart Steiner (2004), *Creating and Implementing Learning Objects in a CS 1 Environment*, Proceedings of the World Conference on Educational Multimedia, Hypermedia and Telecommunications, Lugano, Switzerland

Richard A. Sevenich and Stuart Steiner (2001), *Creating a Development Environment for Embedded Linux*, O'Reilly Open Source Conference, San Diego, CA

Conference Poster Presentations

Stuart Steiner (2017), *Modeling Least Privilege Security for Web Applications*, Eastern Washington University, Successful, Mentoring, Administration, Advising, Arts, Research, Teaching (S.M.A³.R.T) Symposium, Cheney, WA

Stuart Steiner (2014), *Living, Learning and Laundry; Taking a Holistic Approach with Faculty Involvement in the Lives of Students*, NASPA Gold Award Poster, NASPA Annual Conference, Orlando, FL

TEACHING ACCOMPLISHMENTS

Computer Science Courses Taught

CSCD 210 – Programming Principles I (Java)	CSCD 298 – Python Programming
CSCD 211 – Programming Principles II (Java)	CSCD 305 – C++ Programming
CSCD 225 – Programming Principles I (C++)	CSCD 326 – Data Structures (C++)
CSCD 226 – Programming Principles II (C++)	CSCD 340 – Operating Systems
CSCD 228 – Introduction to UNIX	CSCD 440 – Advanced Operating Systems
CSCD 229 – C Programming Language	CSCD 488 – Senior Project
CSCD 240 – C & UNIX Programming	CSCD 490 – Senior Capstone
CSCD 255 – C Programming for Engineers	CSCD 500 – Graduate Colloquium Series
CSCD 260 – Assembly Language Programming	CSCD 506 – Graduate Research Methods

Mobile and Web Courses Developed and Taught

CSCD 298 – Ruby on Rails
CSCD 378 – Web Programming with PHP and JavaScript
CSCD 379 – Web Programming with ASP.Net and JavaScript
CSCD 439 – iPhone/iOS Development
CSCD 479 – Web Programming Security
CSCD 498 – Android Mobile Development

Cybersecurity Courses Taught

CSCD 303 – Computer & Information Security
CSCD 434 – Network Security
CSCD 437 – Secure Code

Current Course Development

CSCD 496 – Security Operations Analyst – Winter 2021

Developing the course to introduce students to Security Operations Center concepts

SUPERVISED UNDERGRADUATE RESEARCH

Current

- Kevin Underwood, Computer Science, Cyber-Physical Systems, April 2019 – Present

Previous

- Emilio Campos, Computer Science, Reverse Malware Analysis, 2019 – 2020
- Luna Lord, Computer Science, Reverse Malware Analysis, 2018 – 2020
- Alysha Randall, Computer Science, Survey of Tools for Teaching Networking, 2019
- Rachel Wilson, Mathematics, Cryptography: Encryption and Hash Functions, 2019
- Rodney Thomas, Computer Science, Detection of IoT Security Vulnerabilities, 2019

CURRENT SERVICE

Computer Science and Electrical Engineering Department

- Graduate Affairs Committee Member
- Undergraduate Computer Science Students Academic Advisor
- Internship Coordinator

Eastern Washington University

- Eastern Washington University Foundation Board Director

PREVIOUS SERVICE

Computer Science Department

- Animation Production Studio Director
- Assessment Committee Member
- Bachelor of Arts Computer Science: Game Development Coordinator
- Chair Search Committee Member
- Computer Information Systems Curriculum Committee Member
- Curriculum Committee Member
- Graduate Affairs Committee Member
- Java Transition Committee Member
- Planning and Budgeting Committee Chair
- Planning and Budgeting Committee Member
- Scholarship Committee Member
- Special Faculty Hiring Committee Member
- Student Tutor Program Coordinator
- Tenure/Tenure Track Faculty Hiring Committee Member
- Undergraduate Affairs Committee Chair

Eastern Washington University

- College of Science, Technology, Engineering and Mathematics Internship Coordinator
- General Education Reform Course Approval Committee Member
- University Academic Computing Council College Representative
- University Course and Program Approval Committee Co-Chair
- University Course and Program Approval Committee Member

External

- 2020 Grace Hopper Celebration of Women in Computing Conference Faculty Scholarship Reviewer
- 2019 Grace Hopper Celebration of Women in Computing Conference Faculty Scholarship Reviewer
- 2017 Grace Hopper Celebration of Women in Computing Conference Student Scholarship Reviewer
- 2017 NASPA Student Affairs Professionals in Higher Education National Conference Paper Reviewer
- The 50th Hawaii International Conference on System Sciences Paper Reviewer
- 2015 National Conference on Undergraduate Research Abstract Reviewer

THESIS AND GRADUATE PROJECTS SUPERVISED

Committee Chair

Provisioning and Optimizing a SQL Server Database in a Cloud-based SaaS Production Environment, Steven Rogers, MS Computer Science, December 2019

Candygram PHP, an API-centric, multi-client, rapid development web framework for PHP, Andrew Canfield, MS Computer Science, August 2014

Committee Member

A Recommendation Engine for Relevant Segmentation Retrieval of Transcribed Podcasts, Vivian Ellis, MS Computer Science, October 2020

Using Twitter to Map Outbreaks of the Flu, Elisha Burnette, MS Computer Science, September 2019

Determining Vulnerability Using Attack Graphs: An Expansion of the Current FAIR Model, Beth Anderson, MS Computer Science, June 2018

GPU Accelerated Risk Quantification, Forrest Ireland, MS Computer Science, June 2018

Evaluating MapReduce on an Inexpensive Cluster of ARM64 Single-board Computers, Daniel McDermott, MS Computer Science, March 2018

Biological Prospective Simulation Using Data Mining and Immersive Virtual Reality Analysis, Joshua Cotes, MS Computer Science, August 2017

Near Real-Time Early Cancer Detection Using a Graphic Processing Unit, Jason Helms, MS Computer Science, March 2016

Development of a Secure Health IT Web Application Infrastructure, Daniel McKenzie Murphy, MS Computer Science, July 2014

kForth – A Simple Tiny Portable Interpreted Language, Ken Farr, MS Computer Science, December 2014

The Dynamic World Engine, Shawn Cowles, MS Computer Science, June 2014

Mining Multi-Granular Multivariate Medical Measurements, Conrad Sykes, MS Computer Science, June 2014

Improving the Performance of Skeletal Mesh Animations in the Blender Game Engine, Mitchell Stokes, MS Computer Science, June 2014

3D Image Acquisition System for Facial Recognition, James Pearson, MS Computer Science, March 2014

GPU Ray Tracing with CUDA, Thomas Pitkin, MS Computer Science, January 2014

GRANTS, CONTRACTS, GIFTS, AWARDS AND PROPOSALS

Equipment Gifts Received: \$750,500

Gift of high-end industry servers for curriculum development and student collaboration including outreach of local area high school and middle school cybersecurity competitions, December 2018

External Funds Received: \$16,000

Single corporate gift of \$2,500 to fund attendance of four computer science females for The Grace Hopper Celebration of Women in Computing Conference, October 2020

Single corporate gift of \$2,500, and three individual gifts of \$1500 to fund attendance of for computer science females for The Grace Hopper Celebration of Women in Computing Conference, October 2019

Two single corporate gifts for a total of \$4,000 to fund attendance of four computer science females for The Grace Hopper Celebration of Women in Computing Conference, September 2018

Single corporate gift of \$2,500 to fund attendance of two computer science females for The Grace Hopper Celebration of Women in Computing Conference, September 2017

Department Scholarship: \$216,000

Computer Science Alumni Scholarship, Created April 2011, Endowed December 2014, Awards six \$1,500 scholarships per year

Unfunded Grants: \$28,000

Securing Websites with Machine Learning and Least Privilege, Eastern Washington University Faculty Research and Creative Works Grant, PI: Stuart Steiner; co-PI: Collienne Covey, December 2017, Requested \$8,000 over 1 year

Transactive Monitoring for Real-Time Energy Control of a Commercial Building, ACM Collaborative Research Experiences for Undergraduates (CREU), PI: Stuart Steiner; co-PIs: Uri Rogers, Kayla Lambert, Ana Guerrero, and Miguel Calvillo, June 2017, Requested \$10,000 over 1 year

B.U.G.S. - Bettering Undergraduate Studies in Computer Science, ACM Collaborative Research Experiences for Undergraduates (CREU), PI: Stuart Steiner; co-PI: Jennifer Quinton, Gina Sprint, Madeleine Fletcher, Ylan Salsbury, and Sumayah Almohana, June 2011, Requested \$10,000 over 1 year

HONORS AND AWARDS

- College of STEM Chair's Excellence Award, Eastern Washington University, May 2017
- Excellence in Teaching and Mentoring Award, Eastern Washington University, April 2015
- Star Fish Student Service Award, Eastern Washington University, December 2014
- Outstanding Service Award, Eastern Washington University, March 2012
- College of SHE Dean's Excellence Award, Eastern Washington University May 2008

MENTORING

- Department of Energy CyberForce Competition Faculty Advisor 2019 – Present
- Cybersecurity Club Faculty Advisor, September 2018 – Present
- People of Diversity Faculty Advisor, September 2018 – June 2019
- Women in Engineering Faculty Advisor, September 2015 – June 2018
- Eastern Washington University ACM-W Faculty Advisor, September 2013 – June 2015

PROFESSIONAL MEMBERSHIPS

Association for Computing Machinery

- Special-Interest Groups:
 - Computer Science Education
 - Operating Systems
 - Security, Audit and Control
- Computer Science Teachers Association

Colloquium for Information Systems Security Education

Consortium for Computing Sciences in Colleges

Institute of Electrical and Electronics Engineers

Special-Interest Group: Computer Society

NASPA: Student Affairs Professionals in Higher Education