James W. Walden
Curriculum Vitae

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Address: Department of Computer Science, Northern Kentucky University, Highland Heights, KY 41099.
Phone: (859) 572-5571
Email: waldenj@nku.edu
WWW: http://faculty.cs.nku.edu/~waldenj/

Education

Carnegie Mellon University, Pittsburgh, PA, 1992-1997
Ph.D. in Physics (1997)
M.S. in Physics (1994)

Miami University, Oxford, OH, 1988-1992
B.S. in Physics with Honors, Magna Cum Laude

Experience

2017-Present	**Professor of Computer Science**, Northern Kentucky University.
2014-2019	**Director of the Center for Information Security**, Northern Kentucky University.
2011-2017	**Associate Professor of Computer Science**, Northern Kentucky University.
2011-2012	**Visiting Research Professor**, Katholieke Universiteit Leuven, Belgium.
2005-2011	**Assistant Professor of Computer Science**, Northern Kentucky University.
2003-2005	**Visiting Assistant Professor**, University of Toledo, Toledo, OH.
1997-2002	**Senior Software Engineer**, Intel, Hillsboro, OR.

Teaching

Classes Taught

I taught the following classes at NKU:

- INF 128: Principles of Informatics
- CIT 140: Introduction to CIT
- CIT 380: Securing Computer Systems
- CIT 383: Administrative Scripting
- CIT 384: Network Administration
- CIT 470: Advanced System Admin
- CIT 480: Securing Computer Systems
- CIT 481: Cybersecurity Capstone
- CIT 485: Advanced Cybersecurity
- CIT 499: Penetration Testing
- CIT 668: System Architecture
- CSC 260L: Programming Laboratory
- CSC 440: Software Engineering
- CSC 482: Computer Security
- CIT 500: IT Technology Fundamentals
- CSC 501: Programming Workshop
- CSC 593: Secure Engineering Seminar
- CSC 640: Advanced Software Engineering
- CSC 660: Advanced Operating Systems
- CSC 666: Secure Software Engineering
- CSC 682: Advanced Computer Security

Curriculum Development

Program Development

2020-2021 Chair, MS/Cybersecurity degree committee.
2019-2020 Developed new BS/Cybersecurity degree.
2015-2016 BS/CIT cybersecurity track.
2013-2014 Online certificate in cybersecurity.
2011-2013 Developed new BS/Data Science degree.
2009-2010 Updated BS/CIT degree for 5-year Review.
2007-2008 Co-developed new MS/CIT degree.
2006-2007 Developed Information Security minor.
2006-2007 Developed Computer Forensics minor with Criminal Justice.
2006-2007 Developed Secure Software Engineering certificate.
2006-2007 Developed Corporate Information Security certificate.
2005-2006 Updated Network Track for BS/CIT degree.

New Courses Developed

2019 Developed and Taught Advanced Software Engineering.
2018 Developed and Taught Advanced Cybersecurity.
2016 Developed and Taught Cybersecurity Capstone.
2015 Designed   Cloud Computing.
2014 Developed and Taught Securing Computer Systems (CIT 480/580).
2013 Developed and Taught Computer Security (CSC 482/582).
2011 Developed and Taught System Architecture.
2010 Developed and Taught Principles of Informatics.
2009 Developed and Taught Scripting.
2009 Developed and Taught Information Technology Fundamentals.
2009 Designed   Web Security.
2009 Designed   Scripting II.
2009 Designed   Scripting I.
2008 Developed and Taught Advanced Computer Security.
2008 Designed   One-year software engineering course sequence.
2007 Designed   Storage Administration.
2007 Designed   Network Security.
2007 Designed   Computer Forensics.
2007 Developed and Taught Network Administration and Troubleshooting.
2007 Developed and Taught Securing Computer Systems (CIT 380).
2006 Designed   Computer Security (CSC 382).
2006 Developed and Taught Advanced Network and System Administration.
2006 Developed and Taught Secure Software Engineering Seminar.
2006 Developed and Taught Administrative Scripting.

Student Supervision

Independent Studies

a. Fall 2019 - Fall 2020. Ludiana Atnafu. Natural Language Understanding and Chatbots.
b. Fall 2018. Adel Kassem. Machine Learning and Security.
c. Summer 2018. Andrew Plunkett. ICS Honeypot Development.
d. Spring 2018. Andrew Plunkett. Empirical Patching Analysis.
e. Fall 2017 - Spring 2018. Rachel Wilson. Rapid Development Security.
f. Spring 2015 - Fall 2015. Jared Anderson. Penetration Testing.

    g. Spring 2015 - Fall 2015. Thomas Caudill. Penetration Testing.
    h. Spring 2015 - Fall 2015. Lance Meredith. Penetration Testing.
    i. Fall 2015. Rasheed El-Saleh. Client-side Web Security.
    j. Fall 2014. Kevin Niemiller. Topics in Software Engineering.

Research Assistants

    a. Fall 2019 - Fall 2020. Ludiana Atnafu.
    b. Fall 2018 - Spring 2020. Adel Kassem and Yash Gaitonde.
    c. Summer 2016. Corey Grothaus.
    d. Fall 2015. Nathaniel Hudson, Wayne Leeke.
    e. Summer 2014 - Spring 2015. Anthony Anderson.
    f. Spring 2014 - Spring 2015. Robert Crawford.
    g. Summer 2014 - Spring 2015. David Horton.
    h. Spring 2013 - Summer 2013. Justin Fry.
    i. Summer 2012. Josue Guerrero.
    j. Summer 2012. Robert Kwong.
    k. Summer 2012 - Fall 2012. Austin Rosenbaum.
    l. Summer 2012 - Fall 2012. Josh Newkirk.
    m. Summer 2012 - Fall 2012. Brian Leibrach.
    n. Summer 2010 - Fall 2010. Jen Moore.
    o. Summer 2010 - Fall 2010. Justin Brown.
    p. Summer 2010 - Fall 2010. Troy Crosley.
    q. Spring 2010 - Fall 2010. Andrew Plunkett.
    r. Summer 2009 - Spring 2010. Rob Lenhof.
    s. Summer 2009 - Spring 2010. John Murray.
    t. Summer 2008 - Spring 2009. Grant Welch.
    u. Summer 2008. George Muntz.
    v. Spring 2007 - Fall 2007. Adam Messer.
    w. Spring 2006 - Fall 2006. Joe Combs.
    x. Spring 2006 - Fall 2006. Phil Ulrich.
    y. Fall 2005 - Fall 2006. Alex Kuhl.

Honors Advisor

    a. Fall 2014 - Spring 2016. Matthew Beckerich.
    b. Spring 2008 - Spring 2009. Michael Whelan.
    c. Spring 2008 - Fall 2008. Jason Froehlich.

Thesis Advisor

    a. 2016-2017. Rasheed El-Saleh.
    b. 2013-2014. Michael Clark.
    c. 2011-2012. Bojan Simic.
    d. 2006-2008. Megan McGee.

Skills

Programming	Assembly, BASIC, bash, C, C++, Forth, FORTRAN, Java, Javascript, Pascal, perl, python, R, ruby, scheme, SML, SQL, tcl/tk
Operating Systems	Cisco IOS, Linux (Debian, CentOS, Kali, Ubuntu), Microsoft Windows, UNIX (AIX, HPUX, IRIX, FreeBSD, OpenBSD, Solaris, SunOS, Ultrix, UNICOS), VMS
Cloud	Amazon Web Services (AWS), Google Cloud Platform (GCP)
Databases	Microsoft SQL Server, MySQL, PostgreSQL, SQLite
Machine Learning	caret, Keras, Rasa, scikit-learn, Weka
Programming Tools	ddd, emacs, Eclipse, gdb, lex, make, rake, vim, yacc
Version Control	git, subversion, CVS, RCS
Static Analysis	flawfinder, Fortify SCA, ITS4, RATS, splint
Markup/Data Languages	HTML, CSS, LaTeX, Markdown, XML, YAML
Security Tools	Argus, bettercap, Burp Suite, iptables, Kali Linux, Metasploit, Nessus, ngrep, nmap, recon-ng, tcpdump, Wireshark.

Service

Department Service

a. 2020-2021. Director. Bachelor of Cybersecurity degree.
b. 2020-2021. Chair. Master of Cybersecurity committee.
c. 2018-2019. Chair. Bachelor of Cybersecurity committee.
d. 2017-2019. Member. Department Promotion Committee.
e. 2016-2017. Member. Department RPT Committee.
f. 2012-2015. Member. Department RPT Committee.
g. 2014. Chair. Lab Committee.
h. 2010-2011. Chair. Lab Committee.
i. 2011-present. Member. Lab Committee.
j. 2014-2015. Co-Chair. Faculty Search Committee.
k. 2013-2014. Member. Faculty Search Committee.
l. 2012-2013. Chair. Faculty Search Committee.
m. 2006-2009. Member. Faculty Search Committee.
n. 2014-2015. Member. RPT Policy Committee.
o. 2013-2015. Member. MS/CS Curriculum Committee.
p. 2009-2011. Member. MS/CIT Admissions Committee.
q. 2009-2010. Member. BS/CIT 5-year Review Committee.
r. 2007-2008. Member. MS/CIT Curriculum Development Committee.
s. 2005-2006. Member. BS/CIT Network Track Curriculum Sub-committee.
t. 2007-2008. Built Cisco networking lab for CIT program.
u. 2006-2007. Built Linux lab for CIT program.

College-Level Service

a. 2017-2019. Member. College of Informatics Technology Committee.
b. 2016-2017. Chair. Informatics Core Knowledge Committee.
c. 2008-2016. Member. Informatics Core Knowledge Committee.
d. 2013-2014. Member. College of Informatics Grants Group.
e. 2012-2013. Chair. College of Informatics Grants Group.
f. 2011-2012. Member. BI Department Faculty Search Committee.

University-Level Service

a. 2018-2019. Led effort to renew NKU's accreditation as an NSA CAE CDE.
b. 2015-2019. Member. University Research Council.
c. 2018. Member. Spotlight on Scholarship Organization Committee.
d. 2018. Member. CISO Search Committee.
e. 2016-2018. Board Member. NKU Research Foundation.
f. 2016-2017. Member. Faculty Benefits Committee.
g. 2014-2016. Member. LMS Workgroup.
h. 2013-2014. Led effort to obtain NKU's accreditation as an NSA CAE CDE.
i. 2013-2014. Chair. Center of Academic Excellence Application Committee.
j. 2013-2015. Member. Post Grant Award Policy Committee.
k. 2012-2013. Member. Faculty International Travel Awards Committee.
l. 2012-2013. Member. Extra Pay Policy Committee.
m. 2011-2013. Author. Data Science B.S. Degree Program Proposal.
n. 2008-2010. Member. Professional Concerns Committee.
o. 2007-present. Founder and Program Chair. NKU Annual Cybersecurity Symposium.

Professional Service

Conference Leadership

a. 2007-2019. Founder and Program Chair. NKU Annual Cybersecurity Symposium.
b. 2012. Program Chair. International Workshop on Security Measurements and Metrics.
c. 2011. Program Chair. International Workshop on Security Measurements and Metrics.

Conference Program Committee

a. 2016. IEEE ISI Workshop on Cybersecurity Education Workforce.
b. 2010-2011. International Workshop on Security Measurements and Metrics.
c. 2009-present. IADIS International Conference on WWW/Internet.

Journal Review Board

a. 2014-2015. Journal of Empirical Software Engineering.

Journal Reviewer

a. 2018-present. Reviewer. Information and Software Technology.
b. 2017-present. Reviewer. IEEE Transactions on Information Forensics & Security.
c. 2017-present. Reviewer. Artificial Intelligence Review.
d. 2013-present. Reviewer. Journal of Empirical Software Engineering.
e. 2013-present. Reviewer. IEEE Transactions on Dependable and Secure Computing.
f. 2012-present. Reviewer. Computers & Security.
g. 2011-present. Reviewer. IEEE Transactions on Software Engineering.

Conference Reviewer

a. 2018. Annual ACM Southeast Conference.
b. 2015-2017. Colloquium for Information Systems Security Education.
c. 2007-2009. ACM SIGCSE Conference.
d. 2008. ACM SIGITE Conference.
e. 2007. Worldcomp.

    f. 2006. InfosecCD Conference.
    g. 2005. Frontiers in Education Conference.

Book and Other Reviews

    a. 2007-2008. CERT Build Security In (BSI) Project.
    b. 2006. Open Web Application Security Project (OWASP) Guide.
    c. 2005. DHS Software Assurance Body of Knowledge.
    d. 2006. *Secure Programming with Static Analysis*, Addison-Wesley.
    e. 2003-2004. *Handbook of Information Security*.

Presentations

Invited Academic Talks

2020 *James Walden*, "The Impact of a Major Security Event on an Open Source Project: The Case of OpenSSL" Department of Computer Science Colloquium. Northern Kentucky University. Highland Heights, KY, September 18, 2020.

2019 *James Walden*, "Evolution the OpenSSL Library after Heartbleed." Florida Institute of Cybersecurity Research. Gainesville, FL, November 21, 2019.

2019 *James Walden*, "Evolution the OpenSSL Library after Heartbleed." University of Gothenburg. Gothenburg, Sweden. September 11, 2019.

2019 *James Walden*, "Changes in an Open Source Library After a Major Security Event: The Case of OpenSSL" Department of Computer Science Colloquium. Northern Kentucky University. Highland Heights, KY, February 22, 2019.

2018 *James Walden*, "Visualizing Changes in an Open Source Library After a Major Security Event" 46th Annual Department of Mathematics Conference. Miami University. Oxford, OH, September 21, 2018.

2018 Dennis Leber, Jason Luttrell, *James Walden*, Junjie Zhang. "Cybersecurity and Machine Learning." Panel presentation. ACM Southeast Conference. Richmond, KY, March 30, 2018.

2015 *James Walden*, "Predicting Vulnerable Components: Software Metrics vs. Text Mining" Southwest Jiaotong University, Chengdu, China, July 1, 2015.

2011 *James Walden*, "Empirical Analysis of the Evolution of Web Application Security," DistriNet Seminar at KU Leuven, Leuven, Belgium, December 8, 2011.

2009 *James Walden* and Maureen Doyle, "How Secure is your Web App? Open Source PHP Web Application Security," Invited Talk, University of Kentucky, Lexington, KY, October 12, 2009.

2009 *James Walden*, "Web Security Essentials for Universities," Kentucky Convergence 2009, Somerset, KY, October 8, 2009.

2007 *James Walden*, "The Impact of Code Complexity on Static Analysis Results," Invited Talk, Miami University, Oxford, OH, November 1, 2007.

2007 *James Walden*, "Software Security," Invited Talk, Recent Advances in Information Assurance, Network and Software Security 2007, St. Cloud State University, St. Cloud, MN, May 2, 2007.

2006 *James Walden*, "Incorporating Security into Software Engineering," Invited Talk, University of Louisville, Louisville, KY, March 8, 2006.

2004 *James Walden*, "Honeypots," Invited Talk, University of Toledo, Toledo, OH, November 10, 2004.

Professional Talks

2020 *James Walden*. "Elections & Security Issues." Informatics Plus and Northern Kentucky Forum. Online, October 20, 2020.

2018 *James Walden*. "An Introduction to Machine Learning for Security." Cincinnati ISACA (Information Systems Audit and Control Association), Cincinnati, OH, October 2 2018.

2017 Matt Kominsky, Greg Akers, Richard Harknett, Chris Huntington, Mark Schnitter, *James Walden*. "Cyber Security in Smart Cities." Panel presentation. Smart Regions Conference. Highland Heights, KY, October 25, 2017.

2017 *James Walden*, Brian Ruschman, Dave Miyamasu. "Cybersecurity Seminar." Kentucky Innovation Network. Covington, KY, June 29, 2017.

2017 *James Walden*. "Cybersecurity Trends and Careers." Regional Economic Development Initiative (REDI) Cincinnati. Highland Heights, KY, June 16, 2017.

2017 *James Walden*. "Censys: a better search engine for IPv4 scan data." Infragard, Cincinnati, OH, March 9, 2017.

2016 *James Walden*. "Censys: a better search engine for IPv4 scan data." 9th Annual NKU Cybersecurity Symposium, Covington, KY, October 22, 2016.

2016 Pam Schmelz, John Knight, and *James Walden*. "CAE-2Y Panel." Tri-State Women in Computing Conference. Cincinnati, OH. February 19, 2016.

2016 *James Walden* and Mark Stockman. "Cybersecurity Education in the Greater Cincinnati Region." Digital Forensics Working Group. Mason, OH. January 13, 2016.

2015 *James Walden*. "Exploring security data with R." 8th Annual NKU Cybersecurity Symposium, Erlanger, KY, October 9, 2015.

2014 Pamela Atkinson, Tamara O'Callaghan, *James Walden*, "Transcending Boundaries: Transdisciplinary Approaches to Teaching." Meet, Greet, and Grab a Seat. Erlanger, KY. August 11, 2014.

2013 *James Walden* and Maureen Doyle, "Data Manipulation and Graphics with R," CINSAM Seminar Series, Northern Kentucky University, Highland Heights, KY. November 13, 2013.

2013 *James Walden*, "Mobile Security: Hacking Android," CAI Mobile Cincy 2013, Erlanger, KY. November 1, 2013.

2012 *James Walden*, "Predicting Android Application Vulnerabilities," 6th Annual CAI Security Symposium, Erlanger, KY, October 12, 2012.

2012 *James Walden*, "Cloud Computing Security," Cloud Intelligence Conference, Hebron, KY, May 22, 2012.

2012 *James Walden* and Zach Hart, "Transdisciplinary Informatics Curriculum Development," Kentucky Innovations Conference, Hebron, KY, May 16, 2012.

2011 *James Walden*, "Cloud Computing Security," Ohio Information Security Forum, Dayton, OH, July 16, 2011.

2011 *James Walden*, "Security of Cloud Computing," Cincinnati OWASP, Cincinnati, OH, February 22, 2011.

2010 *James Walden* and Maureen Doyle, "Effect of Plugins on Web Application Security," 4th Annual IMI Security Symposium, Erlanger, KY, October 15, 2010.

2010 *James Walden* and Maureen Doyle, "Security of Web Application Systems with Plugins," 4th Anniversary Ohio Information Security Forum, Dayton, OH, July 10, 2010.

2010 *James Walden* and Maureen Doyle, "Impact of Plugins on Web Application Security," Cincinnati OWASP, Cincinnati, OH, June 29, 2010.

2010 *James Walden*, "Open Source Security," panel coordinator, 2nd Annual Open Source and Security Symposium, May 17 2010.

2010 Gaut Ragsdale, Jimmie Manning, Steven Weiss, Maureen Doyle, *James Walden*, Toru Sakaguchi, "Cutting Diagonally across Multiple Disciplines: Communication in a College of Informatics, panel presentation, Central States Communication Association Conference, April 14-18 2010.

2010 *James Walden*, "Web Security Risk Assessment with Protection Poker," J. Walden, Cincinnati Agile Round Table, Cincinnati, OH, April 6, 2010.

2010 *James Walden*, "Evolution of Web Application Security," J. Walden, Cincinnati ISACA (Information Systems Audit and Control Association), Cincinnati, OH, March 2 2010.

2009 *James Walden* and Maureen Doyle, "Evolution of Open Source Web Security," 3rd Annual IMI Security Symposium, Erlanger, KY, October 30, 2009.

2009 *James Walden* and Maureen Doyle, "An Empirical Study of Web Application Security Trends," Cincinnati OWASP, Cincinnati, OH, July 21, 2009.

2009 *James Walden* and Maureen Doyle, "Open Source Security," Metricon 3.5, San Francisco, CA, April 20, 2009. *(peer-reviewed online presentation archive)*

2009 *James Walden*, "Information Security in Electronic Health Records," Kentucky Primary Care Association, Lexington, KY, July 22, 2009.

2009 *James Walden*, "Web Application Security," Invited Talk, Kroger Company, June 19, 2009.

2009 *James Walden*, Bruce Perens, Nick Hoffmann, "Open Source Security," panel presentation, 1st Annual Open Source and Security Symposium, May 2009.

2009 *James Walden*, "Software Security in a Perimeterless World," IT Leadership Forum (ITLF), Erlanger, KY, April 3, 2009.

2009 *James Walden*, "Web 2.0 Security," Ohio Information Security Conference, Dayton, OH, March 12 2009.

2008 *James Walden*, "Election Security," College of Informatics, Highland Heights, KY, November 18, 2008.

2008 *James Walden*, "Attack Surface of Web Applications," Ohio Information Security Forum, Dayton, OH, November 13, 2008.

2008 *James Walden*, Maureen Doyle, Grant Welch, Michael Whelan, "OWASP Source Code Review," Open Web Application Security Project (OWASP) EU Summit 2008, Algarve, Portugal, November 4-7, 2008. *(peer-reviewed online presentation archive)*

2008 *James Walden*, "Application Security Through a Hacker's Eyes," 2nd Annual IMI Security Symposium, Erlanger, KY, October 3, 2008.

2008 *James Walden* and Adam Messer, "Code Complexity and Static Analysis," Metricon 3.0, San Francisco, CA, July 29, 2008. *(peer-reviewed online presentation archive)*

2008 *James Walden*, "SQL Injection," Cincinnati OWASP, Cincinnati, OH, June 24, 2008.

2008 *James Walden*, "Web Application Security Exercise Development Approaches," Faculty Workshop on Secure Software Development, Lake Buena Vista, FL, April 14-15, 2008.

2008 *James Walden*, "Injection Attacks," Ohio Information Security Conference, Dayton, OH, March 18 2008.

2008 *James Walden*, "Software Security," Cincinnati ISACA (Information Systems Audit and Control Association), Cincinnati, OH, March 4 2008.

2007 *James Walden*, "Web Application Security," AFCEA InfoTech 2007, Dayton, OH, October 24, 2007.

2007 *James Walden*, "Secure Development Lifecycle," IMI Security Symposium, Erlanger, KY, October 22, 2007.

2007 *James Walden*, "Software Security," IEEE Toledo meeting, Toledo, OH, July 19, 2007.

2007 *James Walden*, "Web Application Security," Kroger Company, Cincinnati, OH, June 14, 2007.

2007 *James Walden*, "Software Security," NKU Final Friday, Highland Heights, KY, April 27, 2007.
2007 *James Walden*, "Software Security," Ohio Information Security Conference, Dayton, OH, March 14, 2007.
2006 *James Walden*, "Software Security," J. Walden, ISSA Cincinnati, Cincinnati, OH, November 15, 2006.
2006 "XP and Software Security," XP Cincinnati meeting, Cincinnati, OH, August 1, 2006.
2006 "Changes in Computer Security," Butler County Torch Club meeting, Oxford, OH, May 9, 2006.

Workshops and Tutorials

2014   *James Walden*, "Teaching with Humanitarian Free/Open Source Software," CCSC: MidWest.
2006-2010 *James Walden*, "Web Application Security Workshop," Infrastructure Management Institute.
2006-2010 *James Walden*, "Secure Programming Workshop," Infrastructure Management Institute.
2009   *James Walden*, "Web Application Security Workshop," 40th ACM SIGCSE Technical Symposium, March 4-7 2009. Acceptance rate: 52%.
2008   *James Walden* and Charles Frank, "Web Application Security," 38th ACM SIGCSE Technical Symposium on Computer Science Education, March 12-15 2008. Acceptance rate: 51%.
2008   *James Walden* and Charles Frank, "Secure Programming Workshop: Buffer Overflows and Other Common Mistakes," 38th ACM SIGCSE Technical Symposium on Computer Science Education, March 12-15 2008. Acceptance rate: 51%.
2007   *James Walden* and Charles Frank, "Web Application Security Tutorial," Consortium for Computing Sciences in College: Midwest Region, September 29-30, 2007.
2007   *James Walden*, Charles Frank, and Rose Shumba, "Software Security Workshop," 37th ACM SIGCSE Technical Symposium on Computer Science Education, March 7-10 2007. Acceptance rate: 54%.
2007   *James Walden*, Charles Frank, and Rose Shumba, "Secure Programming Workshop: Buffer Overflows and Other Common Mistakes," 37th ACM SIGCSE Technical Symposium on Computer Science Education, March 7-10 2007. Acceptance rate: 54%. (Expand version of 2006 workshop with hands-on exercises.)
2006   *James Walden*, Charles Frank, and Rose Shumba, "Software Security Workshop," Consortium for Computing Sciences in College: Midwest Region, September 29-30, 2006.
2006   *James Walden*, Charles Frank, and Laurie Werner, "Secure Programming Workshop: Buffer Overflows and Other Common Mistakes," 36th ACM SIGCSE Technical Symposium on Computer Science Education, March 1-5 2006. Acceptance rate: 74%.
2005   *James Walden*, Charles Frank, and Laurie Werner, "Secure Programming Workshop: How to Keep Our Students From Causing Buffer Overflows," Consortium for Computing Sciences in College: Midwest Region, September 23-24, 2005.

Publications

Peer Reviewed Journal Publications

2017 Jeff Stuckman, *James Walden*, Riccardo Scandariato. The Effect of Dimensionality Reduction on Software Vulnerability Prediction Models. *IEEE Transactions on Reliability* 66.1 (March 2017).

2014 Riccardo Scandariato, *James Walden*, Aram Hovsepyan and Wouter Joosen. Predicting Vulnerable Software Components via Text Mining. *IEEE Transactions on Software Engineering* 40.10 (October 2014).

2012 Yi Hu, Charles Frank, *James Walden*, Emily Crawford, Dhanuja Kasturiratna. Mining File Repository Accesses for Detecting Data Exfiltration Activities. *Journal of Artificial Intelligence and Soft Computing Research.*

2012 *James Walden* and Maureen Doyle, "SAVI: Static-Analysis Vulnerability Indicator," *IEEE Security & Privacy*, vol.10, no.3, pp.32-39, May-June 2012.

1997 Martin J. Savage and *James Walden*, "SU(3) Breaking in Neutral Current Axial Matrix Elements and the Spin Content of the Nucleon," Phys. Rev. D55 (1997) 5376-5384

1997 David E. Brahm and *James Walden*, "Large N_C Relations Among Isgur Wise Functions," Mod. Phys. Lett. A12 (1997) 357-362

1996 Ming Lu, Martin J. Savage, and *James Walden*, "The Radiative Charmed Baryon Decay $\Xi_{c2}^{0*} \to \Xi_{c1}^0 \gamma$," Phys. Lett. B369 (1996) 337-340

1996 John K. Elwood, Mark B. Wise, Martin J. Savage, and *James W. Walden*, "Final State Interactions and CP Violation in $K_L \to \pi^+\pi^-e^+e^-$," Phys. Rev. D53 (1996) 4078-4081

1994 P.R. Rice, X.Yin, *J.Walden*, J.Gea-Manacle, and L.M.Pedrotti, "Laser with Injected Squeezing," Phys. Rev. A50 (1994), 4176

Peer Reviewed Conference Publications

2020 *James Walden*. The Impact of a Major Security Event on an Open Source Project: The Case of OpenSSL. IEEE/ACM 17th International Conference on Mining Software Repositories (MSR 2020) (*FOSS Impact Paper Award*).

2018 Matt Beck and *James Walden*. Using Software Birthmarks and Clustering to Identify Similar Classes and Major Functionalities. 2018 ACM Southeast Conference. (March 2018).

2014 *James Walden*, Jeff Stuckman, and Riccardo Scandariato. Predicting Vulnerable Components: Software Metrics vs Text Mining. IEEE International Symposium on Software Reliability Engineering (ISSRE 2014) (*Best Paper Award*).

2013 Riccardo Scandariato, *James Walden*, and Wouter Joosen. Static Analysis Versus Penetration Testing: a Controlled Experiment. IEEE International Symposium on Software Reliability Engineering (ISSRE 2013).

2013 *James Walden*, Maureen Doyle, Rudy Garns, and Zach Hart. An Informatics Perspective on Computational Thinking. 18th Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE 2013).

2013 Wei Hao, *James Walden*, and Chris Trenkamp. Accelerating e-commerce sites in the cloud. Consumer Communications and Networking Conference (CCNC) 2013 IEEE.

2013 Bojan Simic and *James Walden*. Eliminating SQL Injection and Cross Site Scripting Using Aspect Oriented Programming. International Symposium on Engineering Secure Software and System (ESSoS 13), Paris, France, Feb 27-Mar 1, 2013. (25% acceptance rate)

2012 Riccardo Scandariato and *James Walden*. Predicting vulnerable classes in an Android application. International Workshop on Security Measurements and Metrics 2012, September 21, 2012.

2012 Aram Hovsepyan, Riccardo Scandariato, Wouter Joosen, and *James Walden*, Software Vulnerability Prediction using Text Analysis Techniques. International Workshop on Security Measurements and Metrics 2012, September 21, 2012.

2011   Maureen Doyle, Brooke Buckley, Wei Hao and *James Walden*, "Work In Progress - Does Maintenance First Improve Student's Understanding And Appreciation Of Clean Code And Documentation," 2011 Frontiers in Education Conference, Rapid City, South Dakota, October 12 - 15, 2011.

2011   Maureen Doyle, *James Walden*, "An Empirical Study of the Evolution of PHP Web Application Security," International Workshop on Security Measurements and Metrics 2011, September 21, 2011. (35% acceptance rate)

2010   Yi Hu, Alina Campan, *James Walden*, Irina Vorobyeva and Justin Shelton, "An Effective Log Mining Approach for Database Intrusion Detection," IEEE International Conference on Systems, Man, and Cybernetics, Istanbul, Turkey, October 10-13, 2010.

2010   *James Walden*, Maureen Doyle, Robert Lenhof, John Murray, Andrew Plunkett, "Impact of Plugins on the Security of Web Applications," International Workshop on Security Measurements and Metrics 2010, September 15, 2010. (35% acceptance rate)

2010   Kevin Kirby, *James Walden*, Rudy Garns, Maureen Doyle, "The Great Chains of Computing: Informatics at Multiple Scales," Fourth International Conference on the Foundations of Information Science, Beijing, China, August 21-24, 2010.

2010   *James Walden*, Maureen Doyle, Robert Lenhof, John Murray,"Idea: Java vs. PHP: Security Implications of Language Choice for Web Applications," International Symposium on Engineering Secure Software and Systems (ESSoS),Pisa, Italy, February 2-3 2010. (15% acceptance rate)

2009   *James Walden*, Maureen Doyle, Grant Welch, Michael Whelan, "Security of Open Source Web Applications," International Workshop on Security Measurements and Metrics 2009, October 14 2009. (26% acceptance rate)

2009   *James Walden*, Adam Messer, and Alex Kuhl, "Measuring the Effect of Code Complexity on Static Analysis," Proceedings of the International Symposium on Engineering Secure Software and Systems (ESSoS), Leuven, Belgium, February 4-6, 2009. (24% acceptance rate)

2008   *James Walden*, "Integrating Web Application Security into the IT Curriculum," Proceedings of the 9th ACM SIGITE Technical Symposium on Information Technology Education, Cincinnati, OH, October 14-16, 2008.

2008   *James Walden*, "Web Application Security Exercise Development Approaches," Faculty Workshop on Secure Software Development, Lake Buena Vista, FL, April 14-15, 2008.

2006   *James Walden* and Charles Frank, "Secure Software Engineering Teaching Modules," Proceedings of the 2006 Information Security Curriculum Development (InfosecCD) Conference, Kennesaw, GA, September 22-23, 2006.

2006   Rose Shumba, *James Walden*, Stephanie Ludi, Carol Taylor, Andy Ju An Wang, "Teaching the Secure Development Lifecycle: Challenges and Experiences," Proceedings of the 10th Annual Colloquium for Information Systems Security Education (CISSE), Baltimore, MD, June 2006.

2006   *James Walden* and Rose Shumba, "Integrating Secure Development Practices into the Software Engineering Curriculum," 2006 American Society for Engineering Education (ASEE) Annual Conference, June 2006.

2006   Carol Taylor, Rose Shumba, and *James Walden*, "Computer Security Education: Past, Present and Future," Proceedings of the Seventh Workshop on Education in Computer Security (WECS7), January 2006.

2005   *James Walden*, "A Real-Time Information Warfare Exercise on a Virtual Network," Proceedings of the 36th ACM SIGCSE Technical Symposium on Computer Science Education, February 2005. Acceptance Rate: 28%.

Grants and Awards

External Grants and Awards

1. NSA. Secure Coding Workshop. 2018.
2. Google Cloud Platform Education Grant ($600). 2018.
3. Google Cloud Platform Education Grant ($550). 2017.
4. NSA CAE Community Travel Award. 2013-2016, 2018.
5. Amazon Web Services Teaching Grant ($3000). 2014.
6. Amazon Web Services Teaching Grant ($4000). 2013.
7. NSF CPATH Grant: Informatics at Multiple Scales. ($295,814,) 2009-2013.
8. OWASP EU Summit Travel Award ($1000). 2008.
9. OWASP Summer of Code Grant ($2500). PI. 2008.
10. Cisco Equipment Grant Request ($86,687). PI. 2007.

Internal Grants and Awards

1. Summer Fellowship ($6000). Predicting Security Vulnerabilities in OpenSSL. 2016.
2. CINSAM Grant ($13,459). PI. Mapping Vulnerable Devices using Internet Scale Scan Data. 2016.
3. UR-STEM Undergraduate Research ($1400). 2016.
4. UR-STEM Undergraduate Research ($1400). 2015.
5. NKU International Travel Award ($980). 2014.
6. NKU International Travel Award ($1000). 2013.
7. UR-STEM Undergraduate Research ($1400). 2012.
8. UR-STEM Undergraduate Research ($1400). 2011.
9. CINSAM Grant ($8,181). PI. Predicting Vulnerabilities in Web Applications using Open Source Repository Data. 2011-2012.
10. NKU Project Grant ($5,995). PI. Improving Web Application Security via Data-Driven Software Engineering. 2011-2012.
11. CINSAM Grant ($13,179). PI. Evaluating Web Application Security in an Open Source World. 2009-2010.
12. Summer Fellowship ($6000). Web Application Security Metrics. 2009.

Pending Grants

1. PI. NSF KY EPSCoR ($6,000). An Exploratory Study of OpenSSL Security Practices.

Public Outreach

2007-Present	CAI Annual Security Symposium.
2018	CINSAM Summer Academy: Cracking the Code.
2015	INTERalliance camp. A Hands-on Introduction to Hacking.
2008-2010	CWE/SANS Top 25 Most Dangerous Programming Errors.
2007-2010	Fortify/OWASP Open Review Site.
2007-2008	GIAC Secure Software Programming Certification.
2007-2008	Coach, International Capture the Flag Competition Team.

Professional Memberships

a. Association of Computing Machinery (ACM)
b. Institute of Electrical and Electronics Engineers (IEEE)
c. SIGCSE (ACM subgroup for Computer Science Education)
d. Open Web Application Security Project (OWASP)

Awards and Honors

2015 NKU Faculty Excellence in Research Award.
2014 Best Research Paper Award at ISSRE 2014.
2008 Infrastructure Management Institute Faculty Award.