

April Savoy, PhD

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Education

PURDUE UNIVERSITY – West Lafayette, IN
Doctorate of Philosophy, Industrial Engineering, 2008
Human Computer Interaction Research Program

PURDUE UNIVERSITY – West Lafayette, IN
Masters of Science, Computer Science, 2004

XAVIER UNIVERSITY OF LOUISIANA – New Orleans, LA
Bachelors of Science, Computer Science, 2002

Research Interests

Health Information Systems' User-centered Design and Evaluation

- Assessing Health Information Technology's Impact on Physician Communication During Care Coordination
 - Engineering Electronic Health Record User Interfaces' to Increase Situation Awareness
 - Assessing the Impact of Mobile Technology-Integrated Clinical Workflows
 - Usability Evaluation of Health Information Technology: Emphasizing Cognitive Requirements for Decision Making
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Work Experience

Assistant Professor

2018 – Present, Indiana University Purdue University Indianapolis
School of Engineering and Technology

Director of Human Computer Interaction and Simulation Lab

2014 – Present, Richard L. Roudebush Veterans Affairs Medical Center
Center for Health Information and Communication

Assistant Professor and Director of Informatics

2012 – 2018, Indiana University East
School of Business and Economics

Program Manager- Research Associate

2008-2012, SA Technologies, Inc.

Company specializing in Situation Awareness research , design, training, modeling, and measuring.

Adjunct Professor

2010-2012, American InterContinental University
Department of Information Technology

Graduate Research Assistant

2003 – 2004, Purdue University,
Department of Computer Science

Internships & Co-Op

Co-op Pre-Professional Engineer

2004 – 2005, International Business Machines

Co-op Pre-Professional Engineer

Summer 2002, IBM T.J. Watson Research Center

Co-Op Pre-Professional Engineer

Summer 2001, IBM T.J. Watson Research Center

Information Systems Intern

Summer 2000, Cummins Power Generation

**Research
Grants
Awarded**

**Human Factors Investigation of HIE: Tools to Support Providers'
Coordination of Medications Team Meeting**

2018, Co-Investigator

Solicitation: VA Health Services Research and Development

Research & Technical Area: Health Services and Informatics

iPad Functionality Leveraged to Optimize Workflows (iFLOW)

2017, Principal Investigator

Solicitation: VA Health Services Research and Development

Research & Technical Area: Health Services and Informatics

Young Investigator Award: Mobile Computing in Primary Care

2016, Principal Investigator

Solicitation: Indiana Institute of Medical Research

Research & Technical Area: Health Informatics

**Improving Consultation Management between Primary Care and Sub-
Specialty Clinics (CONSULTS)**

2014, Co-Investigator

Solicitation: VA Health Services Research and Development

Research & Technical Area: Health Services and Informatics

Center for Health Information and Communication

2014, Co- Investigator

Solicitation: VA Health Services Research and Development

Research & Technical Area: Health Services and Informatics

IU Online 3.0

2013, Principal Investigator

Solicitation: Indiana University

Research & Technical Area: Usability of Course Management Systems

**Cyber Security High Abstraction Contextual Visualization and Decision
Support System**

2012, Co-Principal Investigator

Solicitation: Department of Defense Small Business Innovation Research

Research & Technical Area: Information Systems

Enhancing Decision Making through Adaptive Trustworthiness Cues

2012, Co-Principal Investigator

Solicitation: Department of Defense Small Business Innovation Research

Research & Technical Area: Information Systems

**Quality
Improvement
Grants
Awarded**

Electronic Capture of Patient-Centered Data to Improve Quality of Care

2017, Co-Principal Investigator

Solicitation: Richard L. Roudebush Veteran Medical Center

Research & Technical Area: Health Services and Informatics

Measuring Efficiency of Key Clinical Tasks

2016, Principal Investigator

Solicitation: VA Office of Informatics and Analytics

Research & Technical Area: Health Services and Informatics

Information Visualization Insights for Developers

2016, Principal Investigator

Solicitation: VA Office of Informatics and Analytics

Research & Technical Area: Health Services and Informatics

Veteran Affairs Video Access (VA²)

2015, Principal Investigator

Solicitation: VA Health Services Research and Development

Research & Technical Area: Health Services and Informatics

**Fellowships &
Scholarships
Awarded****Sony Electronics Faculty Scholar**

2014, Principal Investigator

Solicitation: Sony Corporation in America

Research & Technical Area: Informatics

American Association for the Advancement of Science Fellow (AAAS)

2007-2008, Principal Investigator

Solicitation: AAAS

Research & Technical Area: Computer Science

Alliance for Graduate Education and the Professoriate (AGEP) Fellow

2006-2008, Principal Investigator

Solicitation: Purdue University

Research & Technical Area: Computer Science

Purdue Doctoral Fellowship

2005-2008, Principal Investigator

Solicitation: Purdue University

Research & Technical Area: Computer Science

David and Lucille Hewlett Packard Fellowship

2002-2008, Principal Investigator

Solicitation: David and Lucille Packard Foundation

Research & Technical Area: Computer Science

Publications**Books and Book Chapters**

Holden, R., Volda, S., **Savoy, A.**, Jones, J. & Kulanthaivel, A. (2016). Human Factors Engineering and Human-Computer Interaction: Supporting User Performance and Experience. In *Clinical Informatics Study Guide*: Springer International Publishing.

Onal, E., **Savoy, A.**, and McDonald, S. (2012, July). Augmented navigation: A cognitive approach. In K. M. Stanney & K. S. Hale (Eds.), *Advances in Cognitive Engineering and Neuroergonomics* (13-22). Boca Raton, FL: CRC Press.

Liao, H., Guo, Y., **Savoy, A.**, and Salvendy, G. (2009). *Content preparation guidelines for the web and information appliances: Cross-cultural comparisons*. Boca Raton, FL: CRC Press.

Journal Articles (Peer-Reviewed)¹

Savoy, A., Patel, H., Herout, J. and Weiner, M. (Submission Intent - May). Systematic Literature Review of Clinical Information Visualizations for Primary Care. *Applied Clinical Informatics*.

¹ Research pipeline: Current pilot research projects are expected to generate 3 manuscripts (min).

Savoy, A., Militello, L., Patel, H., DiIulio, J., Herout, J. and Weiner, M. (Submission Intent - March). Primary Care Physicians' Cognitive Requirements to Support Decision Making During the Consultation Process. *International Journal of Human Computer Interaction*.

Militello, L., **Savoy, A., Patel, H., DiIulio, J., Flanagan, M., Daggy, J., Russ, A. and Weiner, M. (2018).** Hidden complexities in information flow between primary and specialty care clinics. *Cognition, Technology, and Work, 1-10.*

Savoy, A., Militello, L., Patel, H., DiIulio, J., Flanagan, M., Daggy, J., Russ, A., Weiner, M., and Saleem, J. (2018). A cognitive systems engineering approach to improve the usability of electronic order forms for medical consultations. *Journal of Biomedical Informatics*.

Savoy, A., Patel, H., Flanagan, M., Daggy, J., Russ, A. and Weiner, M. (2018). Comparative usability evaluation of consultation order templates in a simulated primary care environment. *Applied Ergonomics, 73, 22-32.*

Saleem, J. J., **Savoy, A., Etherton, G., and Herout, J. (2018).** Investigating the need for clinicians to use tablet computers with a newly envisioned electronic health record. *International Journal of Medical Informatics, 110(2), 25-30.*

Savoy, A., Patel, H., Flanagan, M., Weiner, M., and Russ, A. (2017). Systematic heuristic evaluation of computerized consultation order templates: Clinicians' and Human Factors Engineers' Perspectives. *Journal of Medical Systems*.

Savoy, A. and Salvendy, G. (2016). Factors for Customer Information Satisfaction: User Approved and Customer Validated. *International Journal of Human-Computer Interaction*.

McLeod, A. & **Savoy, A. (2015).** The building blocks for enhanced technological literacy. *The Career and Technical Education Journal*.

Guo, Y., **Savoy, A., and Byrd, K. (2009)** Development and validation of an instrument to evaluate the content effectiveness of video games: A pilot study. *Theoretical Issues in Ergonomics Science, 10(2), 107-133.*

Savoy, A., Proctor, R. W., & Salvendy, G. (2009). Information retention from PowerPoint™ and traditional lectures. *Computers and Education, 52(4), 858-867.*

Savoy, A. and Salvendy, G. (2008). Foundations of content preparation for the web. *Theoretical Issues in Ergonomics Science, 9(6), 501-521.*[Based on Dissertation]

Savoy, A., Guo, Y., and Salvendy, G. (2008). Effects of detectability and importance of usability problems on sample size requirements. *International Journal of Human-Computer Interaction, 25(5), 430-440.*

Conference Proceedings (Peer-Reviewed)

- Militello, L. **Savoy, A.**, Flanagan, M., Wu, J., Adams, J., Rehman, S., Abbaszadegan, H., and Weiner, M. (2017). Exploring Information Flow: Consultations between Primary and Specialty Care Clinics. *International Conference on Naturalistic Decision Making*.
- Moayed, F. A., **Savoy, A.**, and Turpen, C. (2017). Study of Suitability of Computer Workstations Design for Nurses' Work Content. In G. V. Duffy & N. Lightner (Eds.), *Advances in Human Factors and Ergonomics in Healthcare: Proceedings of the AHFE 2016 International Conference on Human Factors and Ergonomics in Healthcare, July 27-31, 2016, Walt Disney World®, Florida, USA* (pp. 89-101). Cham: Springer International Publishing.
- Savoy, A.**, and McLeod, A. (2014, June). The Value of User Centered Design in Product Marketing: A Simulated Manufacturing Company Product Offering Market Strategy. In F.-H. Nah (Ed.), *HCI in Business* (Vol. 8527, pp. 575-582): Springer International Publishing.
- Savoy, A.** (2013, March). Investigating the Usability of Conceptual Models: User's Perspective. *Association for Industry, Engineering, and Management Systems Conference*, Cocoa Beach, FL
- Savoy, A.**, and McLeod, A. (2013). A Precursory Look at Potential Interaction Objectives Affecting Flexible Robotic Cell Safety. In S. Yamamoto (Ed.), *Human Interface and the Management of Information. Information and Interaction for Health, Safety, Mobility and Complex Environments* (Vol. 8017, pp. 198-206): Springer Berlin Heidelberg.
- Robinson, J., **Savoy, A.**, Strater, L., Endsley, M., and Hyatt, J. (2011, October). The networked patrol leader: The need for technologies with a user focus. Paper presented at the *IEEE 6th Annual Network Science Workshop*, West Point, NY.
- McLeod, A., and **Savoy, A.** (2009, June). Problem-based learning in an introductory level lean manufacturing systems course. Paper presented at the *American Society of Engineering Education Annual Conference & Exposition*, Austin, TX. [Best Paper Nominated]
- Savoy, A.**, and Salvendy, G. (2007, July). Effectiveness of content preparation in information technology operations: Synopsis of a working paper. In Jacko, J (Ed.), *Human Computer Interaction: Interaction Design and Usability*, Lecture Notes in Computer Science, 4550, 624-631. Heidelberg, Germany: Springer.
- Savoy, A.** (2000, April). A single strategy for multiple threads. Paper presented at the *National Conference on Undergraduate Research*, Missoula, Montana.

Conference Presentations and Extended Abstracts (Peer-Reviewed)

- Savoy, A.**, Patel, H., Flanagan, M., Daggy, J., Barker, B., Slaven, J. Russ, A. and Weiner, M. (2017). Comparison of Two Electronic Order Forms for Medical Consultation: Think-Aloud Usability Assessment With Referring Clinicians. *Human Factors and Ergonomics Annual Meeting*.

- Savoy, A.,** Patel, H., Flanagan, M., Weiner, M., and Russ, A. (2017). Usability Evaluation of VA Consultation Order Templates: Identifying Problems to Prioritize Redesign Efforts. *Veterans Health Administration's Health Services Research and Development National Meeting*. Washington, DC.
- Savoy, A.** (2017). Practitioners' and User-centered Design Specialists' Varying Perspectives on the Impact of Usability Priorities and Design. *The Patient, The Practitioner, and The Computer: Holding on to the Core of Our Healing Professions in a Time of Technological Change*. Warren Alpert Medical School Conference. Brown University.
- Militello, L., Diiulio, J., Russ, A., **Savoy, A.,** Flanagan, M., Patel, H., and Weiner, M. (2016). Design Concepts to Support Management of Outpatient Consultations in the Veterans Health Administration. *Human Factors and Ergonomics Annual Meeting*.
- Savoy, A.,** Patel, H., Flanagan, M., Russ, A., Weiner, M. (2016). Templates for Ordering Specialty Care Consultations Lack Minimalism and Error Prevention: Results of a Heuristic Evaluation. *American Medical Informatics Association*. Chicago, IL.
- Wu, J., Militello, L., Flanagan, M., Barker, B., Rehman, S., Porter, B., Adams, J., **Savoy, A.,** Russ, A., Weiner, M. (2016). Barriers and Facilitators to Using Electronic Health Records for Referrals between Primary and Specialty Care Clinics. *American Medical Informatics Association*. Chicago, IL.
- Savoy, A.** (2016). Error Message Design. *Applied Human Factors and Ergonomics International Conference*. Orlando, Florida.
- Weiner M, Barker B, Midboe A, Porter B, Adams J, Wu J, Flanagan M, **Savoy A,** Rehman S, Abbaszadegan H, Russ A, Thurmond C, Haggstrom D, Frankel R, Militello L. (2016). Cognitive challenges, technological factors, and communication of medical referrals and consultations. *International Symposium on Human Factors and Ergonomics in Health Care: Shaping the Future*, San Diego, CA.
- Savoy, A.** (2013) Providing Useful Information on Websites: Understanding the Impact of Demographics on Customer Information Satisfaction. *19th Academy of Business Research Fall International Conference*, Montego Bay, Jamaica. [Best Paper Award]
- Savoy, A.** (2013). Investigating the Usability of Conceptual Models: Users' Perspective. *19th International Annual Industry Engineering and Management Systems Conference*, Cocoa Beach, FL.

Media Articles

- Patel, H., **Savoy, A.,** & Weiner, M. (2017). Applying usability heuristics to improve outpatient consultation orders. *The Human Factors Quarterly*. (18).
- Savoy, A.** (2016). At the Intersection of Human Computer Interaction, Human Factors, and Informatics: An Interview with April Savoy, PhD. *The*

Invited Talks

- Savoy, A.** (2016). At the Intersection of Human Computer Interaction, Human Factors, and Informatics: An Interview with April Savoy, PhD. *The Human Factors Quarterly. (14).*
- Savoy, A.** (2014, January). *Usability: The other set of vital signs.* Richard L. Roudebush Veterans Affairs Medical Center, Indianapolis, IN.
- Savoy, A.** (2013, November). *Research Insights in Human Computer Interaction and Informatics.* Purdue University Human Factors and Ergonomics Society, West Lafayette, IN.
- Savoy, A.** (2006, July). *2nd generation usability evaluation for gaming: What gamers want and how gamers want it.* David and Lucile Packard Foundation Graduate Scholars Conference, Washington, D.C.
- Savoy, A.** (2005, July). *Electronic medical record: Human factors improvements for the front-end.* David and Lucile Packard Foundation Graduate Scholars Conference, Monterey, California.
- Savoy, A.** (2004, July). *Key management for mobile wireless sensor networks.* David and Lucile Packard Foundation Graduate Scholars Conference, Washington, D.C.
- Savoy, A.** (2002, October). *User interfaces: Utilizing the small screen.* Model Institutions for Excellence Annual Conference, New Orleans, Louisiana.
- Savoy, A.** (2001, July). *B2B platforms for e-business.* Leadership Alliance Symposium. Stone Mountain, Georgia.

Awards & Honors

- Regenstrief Scientist**
2017, Regenstrief Institute
- Young Investigator Award**
2016, Indiana Institute for Medical Research
- Purdue Alumni Excellence Award**
2015, Purdue Black Graduate Student Association
- Sony Scholar Award**
2014, Sony Corporation in America
- Honorary Member**
2014, Delta Mu Delta
- Best Presentation Award**
2013, Academy Business Research International Conference
- Boeing Award Nomination**
2010, Boeing Performance Award
- Best Paper Nomination**
2009, American Society of Engineering Education (ASEE)
- Outstanding Graduate Student – Purdue University**
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2008, School of Industrial Engineering

NASA Systems Engineering Design Champion

2007, NASA Systems Engineering Design Competition

A member of the first place team in NASA's Exploration Systems Mission Directorate Space Grant Systems Engineering Paper Competition.

Science Update (online): Spotlight on African American Scientists

2006, American Association for the Advancement of Science (AAAS)

My research was featured on the show and was featured as one of the top African American Scientists.

Alpha Pi Mu Honor Society

2005- Present, Xavier University of Louisiana

(Description)

**Professional
Development**

Quality Matters Certificate

2015, Indiana University

Scientific Writing from the Reader's Perspective with Dr. Gopen

2015, Indiana University School of Medicine

Certificate in Online Teaching

2013, Indiana University East

Statewide Information Technology Conference

2013, Indiana University

Academic Careers Workshop

2013, National Science Foundation

Faculty Online Teaching Workshop Series

2013, Indiana University East

Operational Security(OPSEC) Awareness

2011, Center for Development of Security Excellence

Training for Military Members, DoD Employees and Contractors*

Project Management: How to Do it Right

2010, National Society of Professional Engineers

Graduate Teaching Certificate - Purdue University

2008, Center for Instructional Excellence

Compact for Faculty Diversity

2007, Institute on Teaching and Mentoring Southern Regional Education Board

College Teaching Workshop Series

2006, Purdue University Center for Instructional Excellence

Preparing Future Faculty

2006, Purdue University

Expediting Usability Testing

2005, 11th International Conference on Human-Computer Interaction

**The Disappearing Computer: Designing Interaction for Smart Artifacts
HCI Themes: Social Creativity, Meta-Design, and End-User Development**

2005, 11th International Conference on Human-Computer Interaction

**Professional
Affiliations**

American Medical Informatics Association

2015-Present

Healthcare Information and Management Systems Society

2015-Present

Association for Computing Machinery

Special Interest Group Computer Human Interaction (SIGCHI)

2011 - Present

Human Factors and Ergonomics Society

2005- Present

Women in Engineering Program

2005- Present

National Society of Black Engineers

1999- Present, Member

2001-2002, Vice President and Academic Excellence Chair

Computer Science Women's Network

2002- 2004, Member

Alpha Pi Mu

2005- Present, Member

**Community
Service
Organizations**

Delta Sigma Theta Sorority, Inc

Private, non-profit organization whose members provide voluntary services and programs to diverse communities to promote human welfare.