AARON S. CRANDALL, PHD

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CURRICULUM VITAE EXECUTIVE SUMMARY

Current Appointment:

- Assistant Professor at Gonzaga University – Tenure track, year 5

Interests:

- Gerontechnology, artificial intelligence, STEM education, smart environments, UX design

Education:

- Ph.D. Computer Science, Washington State University, 2011
- MS Computer Science, Oregon Health and Science University, 2007
- BSEE Computer Engineering, The University of Portland, 2001

Publishing:

- Citation Metrics as of Summer 2024 Citations: 2029 || h-index: 20

Academic Experience:

- 4 years Assistant Professor (TT) at Gonzaga University
- 4 years Clinical Associate Professor at Washington State University – Instructed 1200+ students
- 5 years Research Professor at Washington State University
- Lecturer in CompSci: Capstone, Software Engineering, DevOps, OS, AI/ML, Security, & Linux
- Advising MS graduate students, Co-advising PhD students

Grant Writing and Fundraising Experience:

- NASA: 1x CubeSat Launch | US NIH Funding: $1.6M | Google: $37k | DoD/NAVSEA: $40k
- Private Donations Fundraising: $140k
- Submitted grants to: NIH, NASA, NSF, DoD, SBIRs, state programs, commercial & private sources

Industry Experience:

- 2x Tech Startup CEO, 5 yrs IT systems, 4 yrs software engineering, 1 yr networking & telcom
- USPTO Patent: Recognition in Multi-Entity Environments (US 13/538,882)

Invited Talks:

- IFA+, NAE, Alzheimer's Assoc. of America, several universities

Other Projects and Service:

- Editor: Journal of Reliability of Intelligent Environments
- Lead Guest Editor: Journal of Sustainability
- Lead Guest Editor: Journal of Artificial Intelligence and Smart Environments
- Committee member: Digital Health, Intelligent Env (IE), ICTAI, DH
- Reviewer for scientific journals and conferences
- Gonzaga University Faculty Senator
- WSU CompSci capstone curriculum coordinator – Total of 65 teams in 4 years
- Student club advising: GU ACM, GU Robotics, Cougs In Space, Palouse RoboSub
- High school tutor: WA State Programming-based capstone projects, 4 years
- WSU & Gonzaga Annual Hackathon Judge and Event Mentor, 10 years
- NSF i-Corps, WSU, UW, & Spokane business plan competitions award winner

EDUCATION

PhD	Computer Science	Washington State University, USA	2011
MS	Computer Science	Oregon Health & Science University, USA	2007
BS	Electrical Engineering	University of Portland, USA	2001

RESEARCH

Published Research Areas and Interests:

- Gerontechnology, Artificial Intelligence, Systems Engineering, Smart Environments/Ubiquitous Computing, Behaviometrics, User Experience

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SELECTED PUBLICATIONS

Citation Metrics as of Summer 2024 Citations: 2029 || h-index: 20

Dissertation

Crandall, **Aaron S.** (2011). "Behaviometrics for Multiple Residents in a Smart Environment". PhD thesis. Washington State University.

Journal Articles

Crandall, **Aaron S.**, Gina Sprint, and Bryan Fischer (2023). "Generative Pre-Trained Transformer (GPT) Models as a Code Review Feedback Tool in Computer Science Programs". In: *Journal of Computing Sciences in Colleges* 39 (1), pp. 38–47.

Crandall, **Aaron S.**, Steven Mamolo, and Mathew Morgan (2022). "SkiMon: A Wireless Body Area Network for Monitoring Ski Flex and Motion During Skiing Sports". In: *Sensors* 22.18. DOI: 10.3390/s22186882.

Hajiamini, Shervin, Behrooz Shirazi, **Aaron Crandall**, and Hassan Ghasemzadeh (2019). "A Dynamic Programming Framework for DVFS-based Energy-Efficiency in Multicore Systems". In: *IEEE Transactions on Sustainable Computing* 5 (1), pp. 1–12. DOI: 10.1109/TSUSC.2019.2911471.

Hajiamini, Shervin, Behrooz Shirazi, **Aaron Crandall**, Hassan Ghasemzadeh, and Chris Cain (2018). "Impact of Cache Voltage Scaling on Energy-Time Pareto Frontier in Multicore Systems". In: *Sustainable Computing: Informatics and Systems* 18, pp. 54–65. DOI: 10.1016/j.suscom.2018.02.011.

Hu, Yang et al. (2016). "Smart home in a box: usability study for a large scale self-installation of smart home technologies". In: *Journal of Reliable Intelligent Environments* 2.2, pp. 93–106. DOI: 10.1007/s40860-016-0021-y.

Thomas, Brian L., **Aaron S. Crandall**, and Diane J. Cook (2016). "A Genetic Algorithm Approach to Motion Sensor Placement in Smart Environments". In: *Journal of Reliable Intelligent Environments* 2.1, pp. 3–16. DOI: 10.1007/s40860-015-0015-1.

Cook, Diane J., **Aaron S. Crandall**, Brian L. Thomas, et al. (2013). "CASAS: A Smart Home in a Box". In: *Computer*. Vol. 46. 7. IEEE, pp. 26–33. DOI: 10.1109/MC.2012.328.

Seelye, Adriana M. et al. (2013). "Naturalistic assessment of everyday activities and prompting technologies in mild cognitive impairment". In: *Journal of the International Neuropsychological Society* 19.4, pp. 442–452. DOI: 10.1017/S135561771200149X.

Chen, Chao, Diane J. Cook, and **Aaron S. Crandall** (2013). "The User Side of Sustainability: Modeling Behavior and Energy Usage in the Home". In: *Pervasive and Mobile Computing* 9.1, pp. 161–175. DOI: 10.1016/j.pmcj.2012.10.004.

Cook, Diane J., **Aaron S. Crandall**, Geetika Singla, et al. (2010). "Detection of Social Interaction in Smart Spaces". In: *Cybernetics and Systems: An International Journal* 41.2, pp. 90–104. DOI: http://doi.org/br9dcr3.

Crandall, **Aaron S.** and Diane J. Cook (2009). "Coping with multiple residents in a smart environment". In: *Journal of Ambient Intelligence and Smart Environments* 1.4, pp. 323–334. DOI: 10.3233/AIS-2009-0041.

Conference Articles

Crandall, **Aaron S.**, Bryan J. Fischer, and **Johannah L. Crandall** (2024). "WIP: ARTful Insights From A Pilot Study on GPT-based Automatic Code Reviews in Undergraduate Computer Science Programs". In: *IEEE Frontiers in Education*. [Under Review].

Crandall, **Aaron S.** (2024). "Segmentation of Augmented Reality 3D Meshes to Discover In Home Safe Walking Spaces for Older Adults". In: *AHFE International Conference on Human Factors in Design, Engineering, and Computing*. [Accepted, To Appear].

Crandall, **Aaron S.**, Daniel Olivares, et al. (2023). "HazARd Fall PreNoSys Augmented Reality-based Tripping Hazard Notification System and Initial User Feedback Study". In: *International Conference on Applied Human Factors and Ergonomics (AHFE)*. Vol. 118. DOI: 10.54941/ahfe1004444.

Compy, K. et al. (2020). "An Upper Bound on the State-Space Complexity of Brandubh". In: *2020 IEEE Conference on Games (CoG)*, pp. 519–525. DOI: 10.1109/CoG47356.2020.9231534.

Hajiamini, Shervin et al. (2018). "A Dynamic Programming Technique for Energy-Efficient Multicore Systems". In: *Ninth International Green and Sustainable Computing Conference (IGSC)*, pp. 1–6. DOI: 10.1109/IGCC.2018.8752159.

Fritz, R. et al. (2017). "Health-Assistive Smart Homes With A Clinician-In-The-Loop". In: *Innovation in Aging* 1.suppl_1, pp. 683–683. ISSN: 2399-5300. DOI: 10.1093/geroni/igx004.2437. URL: https://doi.org/10.1093/geroni/igx004.2437.

Zulas, A Leah, **Aaron S Crandall**, and Maureen Schmitter-Edgecombe (2014). "Caregiver Needs from Elder Care Assistive Smart Homes: Children of Elder Adults Assessment". In: *Human Factors and Ergonomics Society*. Vol. 58. HFES 1, pp. 634–638. DOI: 10.1177/1541931214581150.

Crandall, **Aaron S.**, Leah Zulas, et al. (2012). "Visualizing Your Ward: Bringing Smart Home Data to Caregivers". In: *Emerging Technologies for Healthcare and Aging Workshop in the Proceedings of Computer Human Interaction*. CHI'12.

Zulas, Leah et al. (2012). "Caregiver Needs from Elder Care Assistive Smart Homes: Nursing Assessment". In: *Human Factors and Ergonomics Society*. Vol. 56. 1, pp. 125–129. DOI: 10.1177/1071181312561003.

Crandall, **Aaron S.** and Diane J. Cook (2012). "Smart Home in a Box: A Large Scale Smart Home Deployment". In: *Workshop on Large Scale Intelligent Environments*. WOLSIE'12, pp. 169–178. DOI: 10.3233/978-1-61499-080-2-169.

Thomas, Brian L. and **Aaron S. Crandall** (2011). "A Demonstration of PyViz, a Flexible Smart Home Visualization Tool". In: *IEEE International Conference on Pervasive Computing and Communications Workshops*. PerCom Workshops, pp. 304–306. DOI: 10.1109/PERCOMW.2011.5766889.

Crandall, **Aaron S.** and Diane J. Cook (2010). "Using a Hidden Markov Model for resident identification". In: *Proceedings of the International Conference on Intelligent Environments*. IE'10, pp. 74–79. DOI: 10.1109/IE.2010.21.

Cook, Diane et al. (2009). "Collecting and disseminating smart home sensor data in the CASAS project," in: *CHI Workshop on Developing Shared Home Behavior Datasets to Advance HCI and Ubiquitous Computing Research*. CHI '09.

Crandall, **Aaron S.** and Diane J. Cook (2008a). "Attributing Events to Individuals in Multi-Inhabitant Environments". In: *IET International Conference on Intelligent Environments*. IE '08. Amsterdam, The Netherlands: IOS Press, pp. 1–8. ISBN: 978-0-86341-894-5. DOI: 10.1049/cp:20081164.

Crandall, **Aaron S.** and Diane J. Cook (2008b). "Resident and Caregiver: Handling Multiple People in a Smart Care Facility". In: *AI in Eldercare: New Solutions to Old Problems*. Menlo Park, California, USA: AAAI Press, pp. 39–47. ISBN: 978-1-57735-394-2.

Jakkula, Vikramaditya R., **Aaron S. Crandall**, and Diane J. Cook (Oct. 2007). "Knowledge Discovery in Entity Based Smart Environment Resident Data Using Temporal Relation Based Data Mining". In: *Proceedings of the IEEE International Conference on Data Mining Workshops*. ICDM'07. Washington, DC, USA: IEEE Computer Society, pp. 625–630. DOI: 10.1109/ICDMW.2007.60.

Jakkula, Vikramaditya, Diane J. Cook, and **Aaron S. Crandall** (Sept. 2007). "Temporal pattern discovery for anomaly detection in a smart home". In: *The IET International Conference on Intelligent Environments*. IE '07, pp. 339–345. ISBN: 978-0-86341-853-2. DOI: 10.1049/cp:20070390.

Book Chapters

Crandall, **Aaron S** and Diane J Cook (2016). "Current state of the art of smart environments and labs from an ambient assisted living point of view". In: *Active and assisted living: technologies and applications*, pp. 11–28.

Zulas, A. Leah and **Aaron S. Crandall** (2014). "Assessing Professional Caregiver Needs In Assistive Smart Homes". In: *Handbook of Smart Homes, Health Care and Well-being*. Springer International Publishing, pp. 1–10. DOI: 10.1007/978-3-319-01904-8_14-1.

Crandall, **Aaron S.** and Diane J. Cook (2013). "Behaviometrics for Identifying Smart Home Residents". In: *Human Aspects in Ambient Intelligence: Contemporary Challenges and Solutions*. Ed. by Tibor Bosse et al. Paris: Atlantis Press, pp. 55–71. ISBN: 978-94-6239-018-8. DOI: 10.2991/978-94-6239-018-8_4.

Crandall, **Aaron S.** and Diane J. Cook (2011). "Tracking systems for multiple smart home residents". In: *Behaviour Monitoring and Interpretation*. Ed. by B. Gottfried and H. Aghajan. Vol. 9. Ambient Intelligence and Smart Environments. Nieuwe Hemweg 6B, 1013 BG Amsterdam, The Netherlands: IOS Press. ISBN: 978-1-60750-730-7. DOI: 10.3233/978-1-60750-731-4-65.

Crandall, **Aaron S.** and Diane J. Cook (2010a). "Learning Activity Models for Multiple Agents in a Smart Space". In: *Handbook of Ambient Intelligence and Smart Environments*. Ed. by Hideyuki Nakashima, Hamid Aghajan, and Juan Carlos Augusto. Springer US, pp. 751–769. DOI: 10.1007/978-0-387-93808-0_28.

Crandall, **Aaron S.** and Diane J. Cook (2010b). "Tracking systems for multiple smart home residents". In: *Ambient Intelligence and Smart Environments*. IGI Global, pp. 65–82. DOI: 10.3233/978-1-60750-731-4-65.

Jakkula, Vikramaditya R., **Aaron S. Crandall**, and Diane J. Cook (2009). "Enhancing Anomaly Detection Using Temporal Pattern Discovery". In: *Advanced Intelligent Environments*. Ed. by Achilles D. Kameas et al. Springer US, pp. 175–194. DOI: 10.1007/978-0-387-76485-6_8.

Crandall, **Aaron S.** (2004). "Survive Catastrophic Internet Loss (Hack #45)". In: *BSD Hacks*. O'Reilly Media. ISBN: 978-0-596-00679-2s.

SUPPORT

External Research Grant Funding

Smoke Ready Spokane - planning and preparing for wildfire smoke in Spokane, WA (Key Personnel)		
US Environmental Protection Agency (EPA)	2024–2027	$21k (grant total $1.1M)

CougSat – An Educational Vehicle for Future Space Engineers (PI)		
NASA CubeSat Launch Initiative (CSLI)	2017–2023	$12k + Satellite Launch

Training Program for Undergraduate Gerontechnologists (CO-I)		
HHS, National Institutes of Health	2013–2019	$1,604,828

Robot Control via RGB Video and Convolutional Neural Networks (CO-PI)		
Google	2016	$37,763

External Student Support / Projects Grant Funding

Palouse Robosub AUV Artificial Intelligence Updates and Robonation 2020 (PI)		
US DOD / US NAVY / NAVSEA	2017–2020	$40,000

Undergraduate Program Computing Equipment for Classroom DevOps (PI)		
Washington State Omnibus Funding	2020	$16,000

CougSat I Project (PI)		
Boeing Company	2017–2019	$35,000

Other Solicited Donations

WSU CompSci Capstone program		
External Industry Collaborators	2016–2020	$85,000

CougSat and Cougs in Space Undergraduate Cubesat Program		
Industry and Individual Donors	2017–2020	$69,300

PATENTS

US Patents Issued	
Activity Recognition in Multi-Entity Environments	US 13/538,882

TEACHING EXPERIENCE

Gonzaga University Courses Taught
Appointment: Assistant (TT) Professor

Year	*Term*	*Course Number*	*Course Title*
2024	Spring	CPSC 224	Software Development (2 sections)
		CPSC 334	Linux and DevOps (2 sections)
2023	Fall	CPSC 224	Software Development
		CPSC 491	Software Engineering / Senior Design (2 sections)
		CPSC 499	Computers and Society / Ethics (2 sections)
2023	Summer	CPSC 310	Information Warfare
2023	Spring	CPSC 224	Software Development (2 sections)
		CPSC 334	Linux & DevOps
		CPSC 390	Independent Study: Tafl Game Complexity & Theory
2022	Fall	CPSC 121	Computer Science I
		CPSC 491	Software Engineering / Senior Design (2 sections)
		CPSC 499	Computers and Society / Ethics (2 sections)
2022	Spring	CPSC 224	Software Development (2 sections)
2021	Fall	CPSC 346	Operating Systems (2 sections)
		CPSC 224	Software Development
2021	Spring	CPSC 224	Software Development (2 sections)
		CPSC 223	Algorithms & Abstract Data Structures
2020	Fall	CPSC 412	Linux and DevOps
		CPSC 224	Software Development

Washington State University Courses Taught
Appointment: Clinical (Teaching) Associate Professor

Year	*Term*	*Course Number*	*Course Title*
2020	Spring	CptS 421	Software Design Project I / CompSci Capstone
		CptS 423	Software Design Project II / CompSci Capstone
		CptS 233	Advanced Data Structures in Java
2019	Fall	CptS 421	Software Design Project I / CompSci Capstone
		CptS 423	Software Design Project II / CompSci Capstone
		CptS 233	Advanced Data Structures in Java
		CptS 499	Rubber Duck Debugging to improve chatbot capabilities
2019	Spring	CptS 423	Software Design Project II / CompSci Capstone
		CptS 233	Advanced Data Structures in C++
		CptS 499	3D Tracking and Localization Tech Development
2018	Fall	CptS 421	Software Design Project I / CompSci Capstone
		CptS 321	Object Oriented Design Principles
2018	Spring	CptS 423	Software Design Project II / CompSci Capstone
		CptS 321	Object Oriented Design Principles
2017	Fall	CptS 421	Software Design Project I / CompSci Capstone
		CptS 223	Advanced Data Structures in C++
2017	Spring	CptS 423	Software Design Project II / CompSci Capstone
		CptS 223	Advanced Data Structures in C++
2016	Fall	CptS 421	Software Design Project I / CompSci Capstone
		CptS 223	Advanced Data Structures in C++

Professional Experience

Assistant Professor - Tenure Track 4^{th} year, Gonzaga University 2020–Present

- GU's School of School of Engineering and Applied Science tenure track faculty
- Full suite of expected faculty responsibilities: research, teaching, service, and advising
- Teaching courses on data structures, software engineering, Linux, and DevOps
- Developed and pitched faculty-led study abroad program: Gonzaga in Berlin / Information Warfare

Software Developer, Schweitzer Engineering Laboratories 2021

- Project used FPGA JTAG programmers, uBoot, serial consoles, and direct memory controls
- Tools deployed to field with 30% improved speed and significant reduction in failure rates

Clinical (Teaching) Associate Professor, Washington State University 2016–2020

- WSU's School of Electrical Engineering and Computer science senior instructional faculty
- Developed new software engineering courses to expand offerings for the new BS Software Engineering degree added to the program
- Increased cross-discipline projects and student STEM experiences through new senior design projects involving multiple engineering disciplines
- Instructed over 1200 undergraduates in four years.

Chief Executive Officer, Laser RevEng, LLC Fall 2017–2020

- Founder and CEO for a tactical entertainments-focused technology startup, Laser RevEng, LLC
- Leading efforts to develop and integrate real time location tracking technologies, augmented reality, and user experience design for the company

Chief Executive Officer, BehavioMetrics, LLC Spring 2015–2017

- Founder and CEO for a gerontechnology-focused technology startup, BehavioMetrics, LLC
- Licensed technologies from Washington State University to transition from research to commercial offerings
- Lead business development, fundraising, and technology development of smart home tech for senior care

Assistant Research Professor, Washington State University Summer 2012–2016

- WSU's School of Electrical Engineering and Computer science and the Center for Advanced Studies in Adaptive Systems (CASAS)
- Research areas include advanced machine learning approaches, human factors for smart home technologies, and large scale smart home deployments
- Designed and implemented a world class gerontechnology-focused research testbed
  - Led team of four engineers, three graduate students, and two staff
  - Led outreach and recruitment efforts to onboard healthcare industry collaborators
  - Project eventually led to an international program of 100's of smart home systems for worldwide data collection, research, and publishing

Postdoctoral Research Associate, Washington State University Spring 2011–Summer 2012

- Research included novel approaches to sensor placement, gerontechnology user needs surveying, and continued research on tracking and identification
- Work included construction and maintenance of a large scale smart home research testbed (30 homes), development of research software infrastructure, department recruiting efforts, and senior capstone project advising

STUDENTS

STUDENTS - CO-ADVISING

- Shervin Amini (PhD completed Spring 2019): "Dynamic power management in multi-core systems"
- Brian Thomas (PhD completed Summer 2017): "Occupancy detection and prediction for smart environments"

INVITED TALKS

Tampere University, Tampere, Finland

- "AI-driven Code Review Generation in Software Engineering Processes," Seminar — Fall 2023

SRH University Berlin, Berlin, Germany

- "Applied Artificial Intelligence in Gerontechnology," SRH Graduate Seminar — Summer 2023

EXponential University (XU), Potsdam, Germany

- "HazARd Research Technologies," Seminar — Summer 2023

EXponential University (XU), Potsdam, Germany

- "Teaching DevOps and industry skills," Seminar — Summer 2023

Intel Wireless IoT Technologies Research Group, Portland, OR

- "Smart Homes and Artificial Intelligence for Gerontechnology and Aging Support," — Spring 2018

2016 National Academy of Neuropsychology Annual Conference, Seattle, WA

- "Workshop on Technologies for Healthy Aging," NAN — Fall 2016

2016 Hawaii International Conference on System Sciences, Kauai, HI

- "Introduction to the Technologies for Healthy Aging Minitrack," HICSS — Winter 2016

EU-US Frontiers of Engineering, National Academy of Engineering, Seattle, WA

- "Smart Homes as a Decision Support Framework," NAE FOE — Fall 2014

IFA+, Co-located with IFA, Berlin, Germany

- "Decision Support in Healthcare with Smart Environments and AmI," IFA+ — Summer 2014

AWARDS AND FELLOWSHIPS

- WSU's Top Three Most Engaged RSO of The Year – Cougs in Space — 2019
- WSU business plan competition, 4^{th} place — 2018
- Outstanding Performance and Leadership, Summer NIH ADAR Program — 2017
- Washington St. Univ. Computer Science Ph.D. Student of the Year — 2008–2009

SERVICE

National Science Foundation

- Reviewer for Smart & Connected Communities — 2021

Departmental Services

Faculty Senator, Gonzaga University 2021–present

- Serving as a faculty representative for the School of Engineering and Applied Sciences.

Department Committee Service, Computer Science Department, Gonzaga 2020–present

- ABET assessment coordinator, 2023–present
- CompSci BA degree program redesign committee
- CompSci course redesigns: Networking & Software Engineering
- Faculty hiring committees, 2021, 2022, 2023

Student Club Advisor: GU ACM Student Chapter, Gonzaga University 2021–present

- Founded a student chapter of the Association of Computing Machinery at Gonzaga University
- Organizing Hackathons, reviewing resumes, hosting tech talks, and supporting a learning environment for students

Curriculum Coordinator: CompSci Senior Design, Washington State University 2016–2020

- Responsible for the development computer science senior design (capstone) program
- Raised the number of companies involved in capstone from 2 in 2016 to 15 in 2019
- Raised industry donations to capstone from $20k/year in 2016 to $80k/year in 2020
- While leading capstone, the quantity of students has roughly tripled and I have continually reviewed and updated the program to match both the needs of the students and the needs of modern technologies used in industry
- Currently proposing overhauls to the program to include more professional mentorship, leadership training, and improved project scoping

Student Club Advisor: Cougs in Space, Washington State University 2016–2020

- Faculty advisor for the student group focused on training, education, and outreach for students in the field of space and space engineering
- Guided club from 6 members in 2016 to 120 members in 2019 - making it the largest club in Voiland College Engineering and Architecture
- Engaged multiple companies in supporting and mentoring CiS teams, including Blue Origin, NASA, Planetary Resources, Raytheon, Systima Technologies, Boeing, and Lockheed Martin

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Community Development

Gonzaga Hackathon Adviser, Gonzaga University ACM & Women in Computing Clubs 2021–2024

- Pitched and led first open engineering hackathon at Gonzaga University
- Led team of five+ students per year to coordinate and execute events
- Grew event from 30 to 124 participants in three years

Spokane CyberCup Coordinator 2023

- Coordinated CyberCup IV, a regional capture the flag cybersecurity competition
- Advertised and drew participants from 6 universities and two high Schools

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Professional Societies and Activities

Editor:

- Journal on Reliability of Intelligent Environments 2015–2018

Lead Guest Editor:

- Journal of Sustainability
  Challenges of Engineering Intelligent Environments 2021–2022

- Journal of Artificial Intelligence and Smart Environments
  Thematic Issue on Challenges in Engineering Smart Environments 2014

Program Committee:

- International Conference of Intelligent Environments (IE) 2021–2024
- IEEE Pervasive Computing - Pervasive Health Technologies (PerHealth) 2021
- Digital Health Summit (DH) 2016–2018
- International Conference on Tools with Artificial Intelligence (ICTAI) 2012 & 2013
- International Workshop on Situation, Activity and Goal Awareness (SAGAware) 2012
- International Conference on Computational Informatics and Technology Enhanced Education (ICCITEE) 2012 & 2013

Professional Memberships:

- Association for Computing Machinery, Senior Member 2009–present
- Institute of Electrical and Electronics Engineers, Member 2010–present

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CERTIFICATIONS

Collaborative Institutional Training Initiative (CITI Program)

- Responsible Conduct of Research for Engineers
- Human Subjects Research - Social/Behavioral Research Course
- CITI Conflicts of Interest - Conflicts of Interest

SCIENTIFIC PUBLICATION REVIEWING

Journal Reviewing:

- Sensors 2016–2024
- ACM Interactive, Mobile, Wearable, and Ubiquitious Technologies (IMWUT) 2023
- Pervasive and Mobile Computing 2011–2016

Conference Reviewing:

- IEEE International Conference on Games (IEEE CoG) 2024
- International Conference on Intelligent Environments (IE) 2010 & 2014–2024
- Digital Health Summit (DH) 2016–2019

SELECTED ENGINEERING PROJECTS

PAJ7620 Gesture Sensor Driver - https://github.com/acrandal/RevEng_PAJ7620
Created fork of PAJ7620 driver licensed until MIT open source license. Converted available Arduino code to an object-oriented structure. Driver features added based on documentation and reverse engineering efforts.

10k ft. Competition Rocket Telemetry Module https://github.com/acrandal/GU-Rocketry-ATA-Module
Designed, implemented, and tested a 1U Cube Sat form factor rocket telemetry module with real time RF transmission for in-flight tracking. Built electronics, power controls, 3D printed, and designed aluminum frame.