

SUMMARY

- Statistician with quantitative data analysis, machine learning, and programming skills
- Over seven years of experience working on interdisciplinary teams toward large scale research and applied projects
- Background in smart homes, internet of things, pervasive computing, and wearable technology

SKILLS

- Statistical tools - SPSS, MPlus, Stata
- C, C++, Objective-C, Swift, Javascript, R, Java, Git, Python
- SQL, Balsamiq, and Crystal Dashboard
- Creation, analysis, and application of psychometric tests and measures
- Application of machine learning and reinforcement learning algorithms

EMPLOYMENT EXPERIENCE

Contract Developer – *Various Locations, 2017*

- Created a web tool for clinical psychologists so users could give questionnaires to clients and then review the data and create meaningful visualizations for therapy sessions using Node.js, Javascript, HTML5, Python, and Apache
- Web tool also includes statistical models and calculations using R and visualizations of these outcomes using D3.js
- Created an iOS app for a podcast show so users could learn more about the hosts, communicate with the hosts, and listen to new podcasts using Swift 4
- Created a basic collection game in Unity using C# and ported it to iOS and Android

Post-Doctoral Research Fellow - *NSF Solar Decathlon Smart Home Project, 2015-2017*

- Managed, designed, implemented, and tested the WSU Solar Decathlon Smart Home Project
- Applying machine learning models built for a different smart home to new applications using Weka trained models, Python, and NODE.js
- Built energy efficient smart technology with an interdisciplinary team
- Experimental design and statistical analysis for human robot interaction projects. Projects researched: interactions with basic robotics and reinforcement learning agents
- Mentored and managed a four-person development team
- Soldered and programmed small electronics for smart home use
- Front-end programming and design with Swift 3 for iPhone and iPad
- Back-end programming and architecture with Python, NODE.js, and Linux

User Experience Research Intern - *Samsung Research America, Summer 2015*

- Built prototypes with an interdisciplinary design team using JavaScript, C++, and small electronics
- Experimental design and statistical analysis for individual and team projects
- Collaborated with multiple teams and backgrounds

IGERT Research Fellow – *CASAS Assistive Smart Home at Washington State University, 2010-2014*

- Analyzed and communicated findings from large data sets
- Created custom tailored user interfaces and data visualizations for professional and non-professional caregivers

A. Leah Zulas

- Prototyped wearable and smart home devices for user testing, including hardware and interface components
- Leveraged design principles and research to recommend user experience improvements for accessibility and older adults
- Built and tested assistive smart technology with an interdisciplinary team

Executive Director - *InfoSec Unlocked Non-Profit*, 2014-Present

- Managing 20+ volunteers for large events and educational experiences
- Creating events to assist a large community from zero budget
- Built a responsive website using Bootstrap

Usability Researcher - *Schweitzer Engineering Laboratory*, 2013-2014

- Built information architecture to suit high level tasks for enterprise software
- Constructed personas and stakeholder maps
- Advocated the application of usability research for existing and future projects

User Testing and Interface Design Contractor - *SimpleC, LLC*, Summer 2012

- Interviewed caregiver groups to better understand key stakeholders
- Data analysis and query construction with SQL database
- Created custom tailored user interfaces and data visualizations for care management groups

EDUCATION

2014-2017	Masters in Computer Science, Washington State University
2009-2014	PhD in Experimental Psychology, Washington State University
2007-2009	Masters in Experimental Psychology, Western Illinois University
2005-2007	Bachelor of Science in Psychology, Western Illinois University

MEMBERSHIPS

Society of Women Engineers, 2014-Present
Associate for the Advancement of Artificial Intelligence, 2017-Present
Human Factors and Ergonomics Society Member, 2010-Present
Association for Computing Machinery SIG-CHI Member, 2010-Present

SELECT PUBLICATIONS & PRESENTATIONS

- Zulas, A.L. (2017). *Modifying smart home to smart phone notifications using reinforcement learning algorithms* (Masters thesis, Washington State University).
- Zulas, A.L., Franz, K.I., Griechen, D., & Taylor, M.E. (February, 2017). Solar decathlon competition: Towards a solar-powered smart home. Oral presentation by Zulas, A.L. at Association for the Advancement of Artificial Intelligence 2017, San Francisco, CA
- Zulas, A.L., Crandall, A.S. & Schmitter-Edgecombe, M. (May, 2016). Caregiver needs from elder care assistive smart homes: Spouses of elder adults assessment. Oral presentation by Zulas, A.L. at Association for Computing Machinery CHI2016, San Jose, CA
- Zulas, A.L. (2014). *Graphically Visualizing Quantitative Smart Home Data* (Doctoral dissertation, Washington State University).
- Zulas, A.L. & Crandall, A.S. (2014). Needs of caregivers in the use of smart home technology. A Chapter in *Handbook of Smart Homes, Health Care and Wellbeing*, edited by van Hoof, J., Demiris, G., & Wouters, E.