

Samantha McDonald

Experience

- 2016 **Graduate Student Researcher** Social Code Lab, UCI
Research on computing within the lens of sustainability and human-computer interaction.
- 2013-2016 **Undergraduate Researcher** Prototyping and Design Lab (PAD), UMBC
Research on 3D printed assistive technology for users with disabilities.
- Summer 2015 **Intern** Johns Hopkins University - Applied Physics Lab, Laurel MD
Asymmetric Operations Unit
Analyze video games designed to mitigate cognitive biases for decision making in the intelligence field.
- Summer 2013 **Intern** Merkle Inc., Columbia MD
Information Systems Department
Captured requirements for a new billing application through SQL database mapping.

Education

- Present **University of California, Irvine (UCI)**
Donald Bren School of Information and Computer Sciences
PhD in Informatics
GPA: 3.95
- 2012-2016 **University of Maryland Baltimore County (UMBC)**
Department of Information Systems
BS in Information Systems
Masters Classes in Human-Centered Computing
GPA: 3.77 Major GPA: 3.88 Magna Cum Laude
- Mar-Aug 2014 **Sophia University 上智大学 Tokyo, Japan**
Semester Long Study Abroad Experience
Volunteered with children refugees of Fukushima, improved Japanese speaking with homestay experience and gained cross cultural relationships and communication skills.

Awards

- 2016-2017 **GAANN (Graduate Assistance in Areas of National Need) Fellowship**
Assist graduate students with excellent records who demonstrate financial need and plan to pursue the highest degree available in their course study at the institution in a field designated as an area of national need. (Winter and Spring 2017)

- 2012-2016 **Center for Women in Technology (CWIT) Scholar**
Competitive, four-year academic scholarship dedicated to increasing the representation of women in the creation of technology in the engineering and information technology fields.
- 2016 **Best Student Paper Award - ASSETS SIGACCESS Conference on Computers & Accessibility 2016**
- 2015 **Vijay Jose Memorial Scholarship, UMBC Information Systems Department**
Provide scholarship support to a deserving UMBC undergraduate upperclassmen status.
- 2014, 16 **Best Research Poster:**
Clinical Fabrication of 3D Printed Assistive Technology
2014 Annual IS Student Research Poster Contest – Undergraduate

Universal Gripper Using Granular Compression Technology
2016 Annual IS Student Research Poster Contest – Undergraduate
- 2012, 14, 15 **The Grace Hopper Celebration of Women in Computing Conference Scholarship**

Publications

Political Realities of Digital Communication: The Limits of Value from Digital Messages to Members of the US Congress. Samantha McDonald, Bonnie Nardi, Bill Tomlinson. 2017. *LIMITS 2017. ACM.*

Uncovering Challenges and Opportunities for 3D Printing Assistive Technology with Physical Therapists. Samantha McDonald, Niara Comrie, Erin Buehler, Nicholas Carter, Braxton Dubin, Karen Gordes, Sandy McCombe-Waller, Amy Hurst. *ACM SIGACCESS Conference on Computers & Accessibility (ASSETS '16)* ***Won Best Student Paper Award**

3D Printing: A Future Collapse-Compliant Means of Production. Samantha McDonald. 2016. *LIMITS 2016. ACM.*

Inclusion and Education: 3d Printing For Integrated Classrooms. Erin Buehler, William Easley, Samantha McDonald, Niara Comrie, Amy Hurst. 2015. *In Proceedings of the 17th international ACM SIGACCESS Conference on Computers & Accessibility (ASSETS '15). ACM, New York, NY, USA.*

Tactile aids for visually impaired graphical design education. Samantha McDonald, Joshua Dutterer, Ali Abdolrahmani, Shaun K. Kane, and Amy Hurst. 2014. *In Proceedings of the 16th international ACM SIGACCESS conference on Computers & accessibility (ASSETS '14). ACM, New York, NY, USA, 275-276.*

Investigating the Implications of 3D Printing in Special Education. Erin Buehler, William Easley, Samantha McDonald, Niara Comrie, Amy Hurst. *ACM TACCESS.*

Additional Research

Summer 2015 **Serious Games for Intelligence Analysis**, John's Hopkins Applied Physics Lab
Supervisors: Alex Perrone, Megan Golforth, Dr. Angela Dalton
SIRIUS, an Intelligence Advanced Research Project Activity (IARPA) to design and implement serious games for mitigating cognitive biases in the intelligence field.

- ∴ **Pupil Dilation Research:** Research change in pupil dilation caused by the combination of cognitive load, changes in color, and luminosity of a computer screen. Used R and MATLAB for statistical analysis and graphing of data.
- ∴ **News Article:** Drummond, Katie. "U.S. Intelligence Will Train Super-Sleuths With Videogames." *Wired.com*. Conde Nast Digital, 22 Nov. 2011. Web.

2015-2016 **Customizable Grips for Hand Mobility Impairments**, Prototyping and Design Lab
Supervisor: Erin Buehler & Dr. Amy Hurst
Wrote a software application to create customized grips for users with hand mobility impairments. Teach physical therapy students how to use 3D printing and 3D modeling in their future practice.

- ∴ *CREU (Collaborative Research Experience for Undergraduates)* CRA-W and CDC Grant to increase the numbers of women and minorities who continue on to graduate school with undergraduate research funding (2015-2016)
- ∴ *National Science Foundation Grant - "EAGER: Exploring Appropriate 3D Printing Paradigms in Special Education"* Erin Buehler & Dr. Amy Hurst (2014 – 2016)

Technical Skills

Java, C++, R, SQL, PL/SQL, MATLAB

XHTML, CSS, Javascript, PHP, PSP

Some Experience: Linux, Unix, 3D Modeling, Git, Arduino, 3D Printer Hardware

Volunteer

2017 **End of Term Archiving Hackathon (#DataRefuge)** – Organized web archiving event to assist the Internet Archive in preserving federally stored environmental data

2017 **UCI Sustainable Polycultures Project** – Gardening Volunteer

2017 **Vex Robotics Competition** – Robot Inspector Volunteer, Tustin Unified School District

2016-2017 **UCI Aquaponics** Volunteering to build a large aquaponics system for sustainable food production

2015-2016 **Mid-Atlantic Climbers Association** The protection and preservation of rock climbing areas

2013 **Maryland Food Bank Donation Coordinator** – CWIT Scholars Living Learning Community (LLC)

2013 **Guest Panel Speaker** STEM Girl Power at John's Hopkins Applied Physics Lab

2013, 2014 **Guest Speaker, Bits and Bytes** Retreat for high school girls interested in technological fields

Extra-Curricular Activities

2016 **American Alpine Institute, Alpine Rock Climbing** – Course Completion

2012, 2015 **UMBC Rock Climbing Club** Treasurer 2015-16, Secretary 2014-15

2015 **Omicron Delta Kappa OΔK** National Leadership Honor Society