Annuska Zolyomi

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Computing and Software Systems
University of Washington Bothell

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I am an educator, researcher, and designer in the fields of human-computer interaction, user-centered design, and accessible technology. My approach is to collaborate and co-design with disabled and neurodivergent communities to improve ways technology can mediate communication, social connection, and agency.

Education

Ph.D.	2021	Doctor of Philosophy of Information Science Information School, University of Washington Dissertation Title: *Affective Computing Imaginaries: Co-Design of Communication Technology for Autistic Adults** Advisor: Jaime Snyder Committee: David Hendry, Julie Kientz ***** Nominated for UW Graduate School Distinguished Dissertation Award by the Information School
M.S.	2014	Human Centered Design & Engineering (HCDE), UW
B.S.	1994	Industrial Engineering, UW

Professional Experience: Academic

University of Washington Bothell
2021-Present Assistant Teaching Professor, Division of Computing and Software Systems

University of Washington Bothell
2020-2021 Part-time Lecturer, Division of Computing and Software Systems

University of Washington Seattle
2020-2021 Pre-Doctoral Lecturer, Information School
2019-2021 Graduate Research Assistant, Visualization Studies Research Studio led by Jaime Snyder

Microsoft Research
2019 Research intern on the Microsoft Research (MSR) Ability team

Academic Membership

Affiliated with Value Sensitive Design Lab as faculty member, University of Washington Information School, 2021 – Present.

Member of Society for Disability Studies, 2020-Present.

Professional Experience: Technology Industry

2013-Present **Independent Consultant**
Launched a small business (Good Labs LLC) providing user experience consulting services with a specialization in accessible, inclusive experiences. Clients included Microsoft, Amazon, Easter Seals, and Joan Ganz Cooney Center at Sesame Workshop.

1998- 2013 **Microsoft**
Senior Accessibility Strategist, Program Manager, and Product Planner in Windows, Accessibility Business Unit, Trustworthy Computing, and MSN. Created and delivered training to product groups on research, design, and technical implementation to make products usable for people with disabilities. Delivered product functional specifications, user research, competitive research, and design prototypes (Ease of Access Center in Windows Vista). Contributor to the Microsoft Accessibility Standards and the World Wide Web (W3C) Web Accessibility Initiative guidelines. Creator of Microsoft Imagine Cup (IC) Accessibility competition. Co-creator / co-captain for Accessible Education Tablet IC competition. Co-captain for User Interface Design IC competition. 2008-2012. Launched the Microsoft Inclusive Research Lab.

1995-98 **Accenture**
Technology consultant doing systems analysis and development for telecommunications and technology industry clients including AT&T Wireless, Microsoft. Designed and prototyped first-generation internet applications.

Teaching Experience

Instructor

2020 - 2021	Part-time Lecturer, Usability and User-Centered Design (CSS 473), Computing Software and Systems, UW Bothell
2020 - 2021	Pre-Doctoral Lecturer, Accessible Technology and Inclusive Design (INFO 498), Input and Interaction (INFO 463), Information School, UW
2006-07	Instructor for personal computing and digital photography courses for older adult students, OSHER Institute for Lifelong Learning, UW

Teaching Practicum

2020	“Values in Designing Neurodiverse Social Interactions”, Value Sensitive Design (INFO 464), UW
2017	“Prototyping with Arduino”, *Prototyping Studio* (HCID 521), UW

Section Leader

2019	Information Systems Analysis and Design (INFO 380), UW

Teaching Assistant

2018 Informatics Capstone (INFO 490), UW
2017 Prototyping Studio (HCID 521), Master of Human-Computer Interaction and Design, UW

Guest Lectures in User-Centered Design

"Research Methods for Co-Design with Autistic Adults", *UX Research and Design Mastery* (SI699), University of Michigan, 2021

"Co-Designing Sensory-Aware Technology", *Explorations in Human Centered Design* (HCDE 210), UW, 2019

"User-Centered Design for People with Cognitive Disabilities", *Accessibility and Inclusive Design* (HCDE 598), UW, 2019

"Design Methods for Inclusive and Accessible Technology," *Design Methods* (INFO 360), UW, 2019

"Designing for Accessibility", *Usability and User-Centered Design* (Computing & Software Systems, CSS 478), UW – Bothell, 2019

"Designing for Accessibility", *Integrated Media and Design Capstone* (Interactive Media Design, IMD 481), UW – Bothell, 2018

"Designing Inclusive User Experiences", *Perspectives in Assistive Technology* (ENGR 110/210), Stanford University, 2012

Guest Lectures in Technical Implementation

"Great Engineers Build in Accessibility", *Collaborative Software Design* (INFO 461), UW, 2018

"The Goals and Complexities of Designing Inclusive, Cutting-Edge, Technology Solutions", *Computer Science and Engineering* (CSE 590), UW, 2012

PUBLICATIONS

Journal

[j1] **A. Zolyomi**. 2018. Where the Stakeholders are: tapping into social media during value sensitive design research. *Ethics and Information Technology Journal*, Springer.

Conference Papers: Peer-Reviewed, Archival

[c14] A. **Zolyomi** and Jaime Snyder. 2021. Social-Emotional-Sensory Design Map for Affective Computing Informed by Neurodivergent Experiences. *Proc. of ACM on Human-Computer Interaction,* Vol 5, CSCW1, Article 77 (April 2021), 1-33.

[c13] Begel, Tang, Andrist, Bernett, Carbary, Choudhury, Cutrell, Fung, Junuzovic, McDuff, Rowan, Sahoo, Waldern, Wolk, Zheng, **Zolyomi**. 2020. Lessons Learned in Designing AI for Autistic Adults: Designing the Video Calling for Autism Prototype. *Proc. Of ACM ASSETS Computers and Accessibility 2020, 1-6.* (acceptance rate: 30%)

[c12] **A. Zolyomi**, Andrew Begel, Jennifer Frances Walden, John Tang, Mike Barnett, Edward Cutrell, Daniel McDuff, Sean Andrist, Meredith Ringel Morris. 2019. Managing Stress: The Needs of Autistic Adults in Video Calling. *Proc. of ACM on Human-Computer Interaction,* Vol 3, CSCW (Nov. 2019), 1-29. (acceptance rate: 31%, Best Paper Honorable Mention Award – top 5%)

[c11] **A. Zolyomi**, Anne Spencer Ross, Arpita Bhattacharya, Lauren Milne, and Sean Munson. 2018. Values, Identity, and Social Translucence: Neurodiverse Student Teams in Higher Education. *ACM Human Factors in Computing Systems (SIGCHI), 1-13.* (acceptance rate: 26%)

[c10] **A. Zolyomi**, Anushree Shukla, and Jaime Snyder. 2017. Technology-Mediated Sight: A Case Study of Early Adopters of a Low Vision Assistive Technology. *Proc. Of ACM ASSETS Computers and Accessibility 2016*, 220-229. (acceptance rate: 22%, Best Student Paper Award – top 2%)

[c9] **A. Zolyomi**, Ankitha Bharadwaj, Jaime Snyder. 2017. Let's Play (While Far Away)! Using Technology to Mediate Remote Playdates for Children with Autism. *Human-Computer Interaction International (HCII),* 415-432.

[c8] L.A.E. Boyd, K. Rector, H. Profita, A. Stangl, **A. Zolyomi**, S. Kane, G. Hayes. 2017. Understanding the Role Fluidity of Stakeholders During Assistive Technology in the Wild. *Proc*. *SIGCHI Conference on Human Factors in Computing Systems (CHI 2017),* 6147-6158. (acceptance rate: 25%)

[c7] Hala Annabi, Karthika Sundaresan, and **A. Zolyomi**. 2017. It's Not Just About Attention to Details: Redefining the Talents Autistic Software Developers Bring to Software Development. *The 50th Hawaii International Conference on System Sciences (HICSS),* 5501-5510*.* (acceptance rate: 47%)

[c6] **A. Zolyomi** and Marc Schmalz. 2017. Mining for Social Skills: Minecraft in Home and Therapy for Neurodiverse Youth. *HICSS,* 3391-3400*.* (acceptance rate: 47%)

[c5] **A. Zolyomi**. 2017. Challenges of Constructing a Multiple-Perspective Domain Analysis of Neurodiversity. *Advances in Classification Research Online*, 28(1), 11-13.

[c4] **A. Zolyomi**, Joseph Tennis. 2017. Autism Prism: A Domain Analysis Examining Neurodiversity. *Proc. of the North American Symposium on Knowledge Organization (NASKO),* 1-34.

[c3] Meredith Morris, **A. Perkins**, Catherine Yao, Sina Bahram, Jeffrey Bigham, Shaun Kane. 2016. With most of it being pictures now, I rarely use it: Understanding Twitter's Evolving Accessibility to Blind Users. *Proc*. *SIGCHI Conference on Human Factors in Computing Systems (CHI 2016),* 1-12. (acceptance rate: 23%)

[c2] Camille Cobb, Ted McCarthy, **A. Perkins**, Ankitha Bharadwaj, Jared Comis, Brian Do, Kate Starbird. 2014. Designing for the Deluge: Understanding & Supporting the Distributed, Collaborative Work of Crisis Volunteers*. ACM CSCW,* 888-899. (acceptance rate: 27%)

[c1] Shaun Kane, Meredith Morris, **A. Perkins**, Daniel Wigdor, Richard Ladner, Jacob O. Wobbrock. 2011. Access Overlays: Improving Non-Visual Access to Large Touch Screens for Blind Users. *ACM Symposium of User Interface Software and Technology (UIST),* 1-10. (acceptance rate: 25%)

Extended Abstracts and Posters: Archival, Refereed

[p5] **A. Zolyomi**, Ridley Jones, Tomer Kaftan. 2020. #ActuallyAutistic Sense-Making on Twitter. *ACM SIGACCESS.*

[p4] **A. Zolyomi**, Taylor Gotfrid, Kristen Shinohara**.** 2019. Socializing via a Scarf: Individuals with Intellectual and Developmental Disabilities Explore Smart Textiles. *ACM SIGCHI.*

[p3] **A. Zolyomi**, Anne Spencer Ross, Arpita Bhattacharya, Lauren Milne, and Sean Munson. 2017. Value Sensitive Design for Neurodiverse Teams in Higher Education. *ACM SIGACCESS*.

[p2] **A. Zolyomi**, Anushree Shukla, and Jaime Snyder. 2016. Social Dimensions of Technology-Mediated Sight. *ACM SIGACCESS*.

[p1] **A. Perkins**, Tira Cohene. 2006. The impact of user research on product design case study: accessibility ecosystem for Windows Vista. *ACM SIGACCESS.*

Workshop Papers: Refereed

[w4] **A. Zolyomi**. 2019. Neurodiverse Technology-Mediated Collaboration: Co-Design Towards Enhancing the Agency of Autistic Adults, *Consortium for the Science of Socio-Technical Systems (CSST)*.

[w3] **A. Zolyomi** and Marc Schmalz. 2018. Clay for HCI Research: Creating and Interpreting Forms*. Disruptive Improvisation Workshop*, ACM SIGCHI.

[w2] **A. Zolyomi**. 2016. Connecting Tinkerers: Enriching Maker Communities through Neurodiversity. *Autism and Technology Workshop*, ACM SIGCHI.

[w1] Lund, A., **Perkins, A.**, Kurniawan, S., Nacke, L. 2011. *Accessible Games Special Interest Group (SIG)*, ACM SIGCHI.

Book, Magazine, and Newsletter Contributions

[b3] **A. Zolyomi**, Jaime Snyder. 2018. Early Adopters of a Low Vision Head-Mounted Assistive Technology. Special Interest Group on Accessible Computing (SIGACCESS), Newsletter Issue 122.

[b2] Technical Contributor for Microsoft Corporation. *Engineering Software for Accessibility*. Microsoft Press (2009).

[b1] Jennifer Linn, **A. Perkins.** 2008. Accessibility 101**,** Code Magazine, 5(4).

Media Coverage

[m1] A DARPA Sarcasm Detector Is Good [https://gizmodo.com/a-darpa-sarcasm-detector-is-good-1846991265]. By W. Kimball. www.gizmodo.com. May 2021

Awards and Honors

2019	Best Paper Honorable Mention Award. Zolyomi, et al. Managing Stress: The Needs of Autistic Adults in Video Calling. *ACM CSCW*. Publication [c12].
2019	ACM ASSETS Doctoral Consortium Grant
2017	Best Paper Honorable Mention Award. Zolyomi, et al. Technology-Mediated Sight: A Case Study of Early Adopters of a Low Vision Assistive Technology. *ACM ASSETS.* Publication [c10].
2017-18	Fellow, Leadership Education in Neurodevelopmental and Related Disabilities (LEND), UW.
2017	Harlan Hahn grant ($2,000), Disability Studies Department, UW.
2015-17	Top Scholar Award, Graduate Opportunities and Minority Achievement Program (GO-MAP), UW.
2014	Patent granted for “User experience customization framework”, US 8732661.
2009	Patent granted for “Personalization of user accessibility options”, US 7554522.
2009	Patent granted for “Icon for a portion of a display screen (Windows Vista Ease of Access icon)”, US D606091.
2009	Patent application for “Three-State Touch Input System), US 20110138284.
2000-10	Five Microsoft Ship-It Awards for contributing to the release of MSN and

Windows products.

Contribution to Technology Industry Research and Standards Organizations

Industry coalition member, *Cloud4All and Global Public Inclusive Infrastructure*; funders included the National Institute on Disability and Rehabilitation Research (NIDRR), U.S. Department of Education, and the European Union, 2011-13.

Advisory Board member, *National Center for Technology Innovation (NCTI)* funded by the U.S. Office of Special Education Programs (OSEP), 2007-10.

Working Group Member, *Web Accessibility Guidelines, Web Accessibility Initiative (WAI*), World Wide Web (W3C), 1999-2001.

Federal Grant Referee

"Technology in the Works" Grants for collaborative research projects that explore innovative assistive technologies that can provide greater access for students with disabilities. National Center for Technology Innovation – Office of Special Education Programs (OSEP), 2007-10.

Invited Talks

2021 Invited Speaker, GroupLens Lab Journal Club, University of Minnesota

2021 "Designing Technology for Face-to-Face Neurodiverse Communication", UW Autism Center

2021 "Design of Communication and Affective Technology for Autistic Adults: From Speculative Co-Design to Consumer-Focused R&D", Vanderbilt Computer Science

2021 Digital Equity Panel, Inclusify By Design, University of Washington

2018 "Technology-Mediated Lived Experiences of #ActuallyAutistic Individuals*",* *Human Factors and Ergonomics Society Symposium*.

2013 "Demonstration of Wearable Fabric Technology", *Kennedy Center Leadership Exchange in Arts and Disability (LEAD)*, John F. Kenney Center for the Performing Arts, Washington D.C.

2012 "Designing Effective Technologies Through the Use of Personas", Research Webinar, *Assistive Technology Industry Association (ATIA).*

2012 "Digital Rights and Markup for Digital Books" and "Panel on Accessibility and Inter-operability", *Computers Helping People with Special Needs (ICCHP).*

2011 “Accessible Touch Screen Interactions”, Demonstrated Surface Touch Overlays. *Technology and Persons with Disabilities Conference (CSUN).*

2010 “Research on Emerging Technologies: A Panel Speaks About Research Funded by NCTI”, *CSUN*.

2009 “Inclusive Innovation at Microsoft: Windows 7 and Silverlight”, *Software Development for Enhancing Accessibility and Fighting Info-exclusion (DSAI).*

2007 “Creating usable interfaces for people with disabilities”, *Puget Sound World Usability Day.*

2006 “Built-in Ease of Access Coming in Windows Vista”, *CSUN*.

Invited Research Workshops and Consortia

Zolyomi. 2019. “Neurodiverse Socio-Technical Collaboration: Co-Design Towards Enhancing the Agency of Autistic Adults, *ACM SIGACCESS conference* (*ASSETS)*.

Zolyomi. 2019. “Designing to Improve the Agency of Autistic Adults in Technology-Mediated Collaboration”, *UW Design-Use-Build (DUB).*

Microsoft Research Faculty Summit, *Ability Team*, 2019.

Autism Research Workshop, *Autism at Work*, 2019.

Digital Storytelling Fellows, UW, 2017.

Workshopped my research on Neurodiverse Teamwork in Higher Education, *Value Sensitive Design: Charting the Next Decade*, Lorentz Center – Leiden, The Netherlands, 2016.

Expanding Accessibility Research, *UW Computer Science and Engineering / Microsoft Research Summer Institute*, 2016.

Service to Profession

Committee Membership

ACM SIGCHI Accessibility committee, 2021 - Present

Conference Peer-Reviewer

ACM Computer Human-Interaction (CHI): 2016, 2017, 2019*, 2020, 2022
ACM Computer Supported Cooperative Work (CSCW): 2018, June 2020, Oct 2020, April 2021
International Conference on Affective Computing & Intelligent Interaction (ACII) 2021

ACM IDC Work-In-Progress: 2021
ACM Interaction Design for Children (IDC): 2019, 2020
ACM Tangible, Embedded and Embodied Interactions (TEI): 2019
Hawaii International Conference on System Sciences (HICSS): 2017, 2018
Educational Research and Reviews (ERR): 2017
ACM User Interface Software and Technology (UIST): 2014*
*Special Recognition for Exceptional Reviewing

Journal Reviewer

ACM Transactions on Computer-Human Interaction (TOCHI) 2022
ACM Transactions on Accessible Computing (TACCESS): 2018, 2021
Springer Higher Education: 2020
Autism Policy and Practice: 2019
Springer Journal of Ambient Intelligence and Humanized Computing: 2018

Event Organization

Co-organizer of "Non-Ableist Data Science Workshop: Exploring Data Science and Inclusion" co-sponsored by the Taskar Center for Accessible Technology, the UW eScience Institute and the Paul G. Allen School of Computer Science & Engineering, 2020

Co-organizer of Neurodiversity Knowledge Structures session for workshop on "Involving Participants in Identifying Issues in Multi-Dimensional, Multi-Perspective, and Multi-Viewpoint Knowledge Structures", *Association for Information Science and Technology (ASIS&T)* Special Interest Group on Classification Research, 2017

Co-organizer, *Accessibility and Gaming*, ACM CHI Special Interest Group, 2011

Producer, *Puget Sound World Usability Day*, 2011-12

Departmental/University Service

Leadership Positions

PhD student representative, Information School Research Committee, UW, 2018-19

Treasurer, Doctoral Student Association, Information School, UW, 2017-18

Volunteer

Co-developed and presented learning module, "Critical Thinking to Increase Community Voices in Data for Social Justice," UW-CAMP Dare to Dream Science Academy for high school students, UW, 2020

Member, Diversity Welcome Committee, Information School, UW, 2015

Academic Mentorship

Advise undergraduate Computing and Software Systems (CSS) and Interactive Media and Design (IMD) students on UW Bothell capstones, independent studies, and undergraduate research, 2021 - present

Jessica Scott, Human Centered Design and Engineering Master student, UW, 2020

Sofia Thomas, Informatics undergraduate student, Eye-tracking research for Inter-disciplinary Honors Program, UW, 2020

Taylor Gotfrid, Computer Science Master student, Rochester Institute of Technology, Publication [p4]

Anushree Shukla, Informatics undergraduate student, UW, Publications [c10], [p2]

Community Involvement

Co-produced Autism Stories with UW Autism Center, 2019.
https://depts.washington.edu/uwautism/communityengagement/autismstories/

Art display for an interactive electronic textile skirt that I co-created with a textile artist, “Interactive” exhibit, Venues for Artists in the Local Area (VALA), 2014.

Organized digital, do-it-yourself Maker workshops for elementary and middle school students; partnered with Sparkfun Educational Outreach, 2013.

Created and delivered introductory course on Arduino computer prototyping, *Ryther* (agency serving neurodiverse youth and young adults), 2012-13.