

DEIA NEWSLETTER



Second Edition, Winter Quarter 2024

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WELCOME!

This Newsletter is entirely focused on accessibility in recognition of the 50th anniversary of the passing of the Rehabilitation Act of 1973, a landmark piece of legislation whose Section 504 helped to create the mandate for accessibility that still positively affects many of us today. Section 504 states: “No otherwise qualified individual with a disability in the United States, as defined in section 705(20) of this title, shall, solely by reason of her or his disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance or under any program or activity conducted by any Executive agency or by the United States Postal Service.” However, as documented in the award winning, and Oscar nominated film [Crip Camp: A Disability Revolution](#),

this legislation was enforced only after a 28-day sit-in in the San Francisco Federal Building by about 100 disabled activists, who were in turn supported by a variety of organizations and civil rights groups. Thus, we dedicate this month not only to celebrating people with disabilities, such as the recent distinguished lecture by MacArthur Award-winning Joshua Miele, founder of the Blind Arduino Blog, but also to taking the actions needed to increase inclusiveness in the Allen School, such as forming our very first Accessibility Committee. Please join us in this effort!

**—Professor Jennifer Mankoff,
Richard E. Ladner Professor,
Paul G. Allen School of Computer
Science & Engineering**



FEATURED ARTICLE

Debunking 3 Myths About “Accommodating” Disabled Students

Allen School Ph.D. students Kelly Avery Mack, Lucille Njoo and Ather Sharif

Completing graduate school is difficult for any student, but it’s especially difficult when you’re trying to learn at an institution that isn’t built for you. Students with disabilities at UW face extra challenges every day because our university doesn’t support equitable participation in educational activities like research and mentorship – those of us who don’t fit the mold face an uphill struggle to make ourselves heard in an academic culture that values maximum efficiency over unique perspectives. In this article, we share three common myths about students with disabilities, reveal the reality of our inequitable experience as grad students at UW, and propose a few potential solutions to begin ameliorating this reality, both at our university and beyond.

Myth 1: [DRS \(Disabilities Resources for Students\)](#) handles all accessibility accommodations.

This is an incorrect expectation of the role DRS serves in a campus ecosystem. The term “accommodations,” in the first place, frames us as outcasts, implying that someone needs to “review” and “approve” of our “requests” to simply exist equitably; but given that this is the term folks are most familiar with, we’ll continue referring to them as “accommodations” for ease of communication. While DRS can provide some assistance, they are outrageously under-staffed, and [UW research](#) has demonstrated that they are only part of the ecosystem. **Instructors need to consider accessibility when building their courses and when teaching their classes.** Accessibility, like computer security, works best when it is considered from the beginning, but it’s not too late to start repairing inaccessible PDFs or lecture slides for a future quarter. UW DO-IT has a great resource for [accessible teaching](#).

Myth 2: Making my materials accessible is all I have to do for disabled students, right?

Disability is highly individual, and no matter how much an instructor prepares, a student might need further accommodations than what was prepared ahead of time. **Listen to and believe disabled students when they discuss the accessibility barriers they face. Questioning their disability or using language that makes them doubt their self-worth is a hard no.** Then, work with the student to decide on a solution moving forward, and remember that students are the number-one experts on their own accessibility needs.

Myth 3: Advising a student with a disability is the same as advising a student without a disability.

Disabled students have very different experiences of grad school, and they need advisors who are informed, aware, and proactive about those differences. If you are taking on a disabled student, the best ways to prepare yourself are:

- 1) Educate yourself about disability.** Disabled students are tired of explaining the same basic accessibility practices over and over again. Be willing to listen if your student wants to educate you more about their experience with disability, and recognize action items from the conversation that you can incorporate to improve your methods.
- 2) Expect that timelines might look different.** Disabled students deal with all kinds of barriers, from inaccessible technology to multiple-week hospital stays, so they may do things faster or slower than other students (as is true for *any* student). This does not mean they are not as productive or deserving of research positions. Disabled students produce high-quality research and award-winning papers, and their unique perspectives have the potential to strengthen *every field*, not just those related to disability studies. **And they are able to do their best work when they have an advisor who recognizes their intellectual merit and right to be a part of the program.**
- 3) Be prepared to be your student’s number-one ally.** Since DRS cannot fulfill all accessibility needs, you might need to figure out how to solve them yourselves. Can you find \$200 in a grant to purchase an OCR tool to help make PDFs accessible for a blind student? (Yes, you can.) Can you advocate for them if their instructor isn’t meeting accessibility requests? (Yes, you can.) Not only will this help them do their best work, but it also sets an example for the other students in your lab and establishes an academic culture that values students of all abilities.



Authors and Allen School Ph.D. students, Kelly Avery Mack, Lucille Njoo and Ather Sharif.

ACCESSIBILITY-RELATED DEIA ACTIVITIES IN THE ALLEN SCHOOL

Accessibility as Addressed in CSE Courses



In its 5-Year DEIA Strategic Plan, the Allen School committed to "... building the capacity of our community to produce technology that is just, equitable, and socially aware." In keeping with that commitment, accessibility is surfacing in a growing number of CSE courses.

For undergraduates, it starts as early as the Summer Bridge for Allen Scholars (CSE 190E). The remaining incoming students see it first in the new introductory sequence, CSE 12X. There, for example, topics such as the use of Visual Studio as a blind developer, accessible printing, screen readers and non-keyboard inputs have been included in reflection components of assignments and discussions of sociotechnical themes. Also at the undergrad level, there is a full, one quarter course, Accessibility (CSE 493E), that covers topics ranging from disability justice to compliance with *Web Content Accessibility Guidelines (WCAG)* for creating accessible presentations, documents, and apps. From the course description:



Access technology (AT) has the potential to increase autonomy and improve millions of people's ability to live independently. In addition, accessibility is a human rights issue and it is the law. If you're creating interactive technologies, you should know how to build regular interfaces that are accessible as well as understanding the value of innovating new approaches to accessibility. Disability touches almost everyone either directly or indirectly at some point in life, temporarily or permanently. Let's create a future we will also want to and are able to be part of.

Aspects of accessibility also appear in Interaction Programming (CSE 340), Data Structures and Algorithms (CSE 373), Data Visualization (CSE412), and Introduction to HCI: User Interface Design, Prototyping, and Evaluation (CSE 440).

At the graduate level, accessibility is primarily covered in two courses. For the Professional Masters Program (PMP), it's Special Topics: The Future of Accessible Technology (CSE

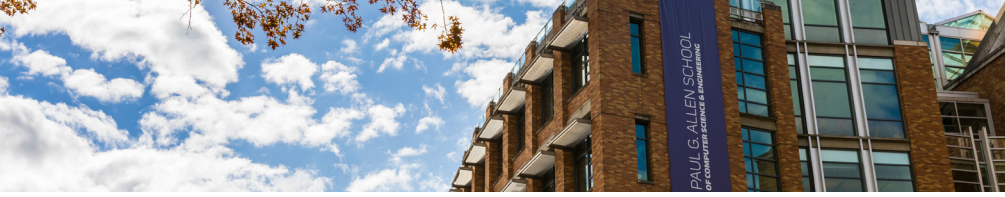
P 590), exploring topics such as how computing can enable new solutions to accessibility both in access to the world and access to computers, and how a disability studies perspective can be a guide in developing empowering and relevant solutions to accessibility problems. For the Ph.D. program, the Breadth Course Disability Inclusion for Technologists (CSE 513) includes the following topics: disability justice; accessibility technology; creating accessible applications and websites; accessibility concerns in computational topics such as security, fabrication and augmented reality; and the importance of technology in addressing accessibility concerns in the world at large.



For additional courses on accessibility at UW, see [CREATE's listing](#).

Accessibility impacts a wide range of topics in computer science. Look for the forthcoming book [Teaching Accessible Computing](#) led by Professor Amy Ko (iSchool and Affiliate Allen School faculty), Allen School faculty emeritus Richard Ladner, and iSchool Ph.D. student Alannah Oleson.

The screenshot shows the CREATE (Center for Research and Education in Accessible Technology and Experiences) website. The main heading is "Accessibility-Related UW Courses". Below this, there is a link to "UW CREATE - Education - Accessibility-Related UW Courses". A text block says: "Looking for courses that include curriculum about accessibility? Start here - but do check the [UW course catalog](#), MyPlan, and the department course listings to confirm when courses are taught and by whom." Two courses are listed: "CSE 340 - Interaction Programming" and "CSE 440 - Introduction to HCI". The sidebar on the right includes "Education", "Student Members", "Accessibility-Related UW Courses", "CREATE Accessibility Seminars", "Advanced Rehabilitation Research and Training Program", "CREATE Student Minigrant Program", "Resources for Disabled Academics", and "CREATE's Reading List". At the bottom, there is a "NEWS & ANNOUNCEMENTS" section with a link to "Anat Caspi receives Human Rights Educator Award".



The Ability Affinity Group

Octavia Stappart, Allen School Alum and former officer of Ability

Editor's Note: This article updates a version that appeared earlier in a DO-IT Newsletter. Updates and revisions provided by Nayha Auradkar (Founder of Ability), Lucille Njoo (Co-Chair of Ability), Drew King (Co-Chair of Ability), Theodorick Greenleaf (Secretary/Treasurer of Ability)



Ability is an Allen School student organization whose mission is to provide a community for students with disabilities and their allies, and to educate the Allen School and broader UW community about disability and accessibility. Disability carries a stigma, is often misunderstood, and it tends to be overlooked in conversations about diversity and inclusion. Yet, it's an identity for millions of people – including many students in the Allen School. Nayha Auradkar, former Chair of Ability, founded the group to create a space for students to support each other and learn about disabilities in an open and welcoming environment. Since its inception in the Spring of 2021, it has grown to an officer team of 5 and over 100 members!

Ability supports students with disabilities in a variety of ways, including helping them get connected to the myriad of disability resources available to them at UW. They kicked off this year by hosting an information session for incoming students about disability resources on campus. Officers made themselves available to meet with students individually to help them navigate aspects of accessible education like course accommodations and academic success meetings with DRS. Other events aim to create space for talking about difficult topics in the disability community. As an example, an "Impasta Syndrome" dinner event (pasta is served) discusses topics such as being "not disabled enough" or "not the right kind of disabled" and so feeling like a disability imposter.

Ability isn't just for students with disabilities though. It's open to students who are allies of the disability community, as well as those who just want to learn more. The group regularly leads an Allyship Workshop where students participate in candid discussions about disabilities, learn to recognize

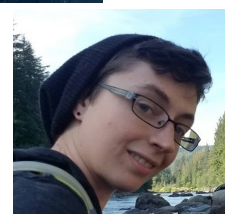
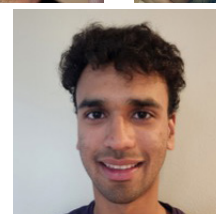
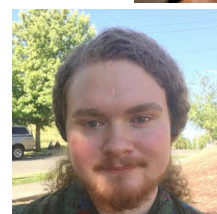
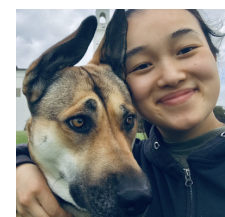
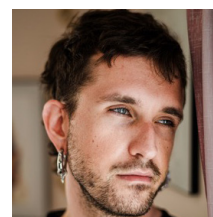
ableism in their daily lives, and see how to better be an ally to their disabled peers.

In addition, Ability highlights other opportunities available on campus, such as accessibility research. They host an annual Accessibility Research Night where researchers at UW present their current work and share opportunities for students to get involved. They have also collaborated with organizations such as the LEAP Alliance (to highlight graduate school opportunities) and Husky Coding Project (to host a workshop on designing accessible websites).



Since a large piece of Ability's mission aims to build community, it also holds fun social events for members. They've had trivia nights, game nights, hot chocolate bars, and recently have hosted weekly socials in the new Diversity and Access Lounge for students with disabilities and allies to meet with each other and play games.

Ability welcomes students, faculty, and staff of all identities. Regardless of whether you identify as disabled or not, you're welcome to join Ability to make friends, have fun, and learn about disabilities. Feel free to reach out to Ability at ability-officers@cs.washington.edu if you have any questions!



Ability Officers: Drew King, Lucille Njoo, Theodorick Greenleaf, Joban Mand and Lee Janzen-Morel



CSE Research on Accessibility

Editor's Note: There are many accessibility-related research projects within the Allen School, only two are described here. Future DEIA Newsletters will present more and, in particular, will cover the work done by Allen School researchers in [UW CREATE](#) and the [Taskar Center for Accessible Technology](#).

CSE RESEARCH ON ACCESSIBILITY

Antonio Glenn

Antonio Glenn is a second-year Ph.D. student in the Allen School working in the area of mobile and wearable technology for health and medical sensing. He's advised by Professor Shwetak Patel (joint faculty in the Allen School and Electrical and Computer Engineering) and Professor Shyam Gollakota (Allen School faculty).

Antonio comes from a family of nurses and, as early as middle school, was drawn to the field of medicine and healthcare. In college, he studied biomedical engineering and was exposed to medical technology supporting patient care. A goal in coming to the Allen School was to work on developing more affordable and accessible medical technology. In his first year, Antonio worked on a project to develop wireless earbuds for low-cost hearing screening.

It's important to screen newborns for hearing loss to avoid delays in language acquisition and learning. In the US, newborns are routinely screened with a device that plays tones in their ears and listens for the sounds generated by their cochlea, the organ that gives us the ability to sense sound. The devices used though are prohibitively expensive for the low-resource communities in many countries. To remedy this, Antonio worked with Justin Chan (UW grad student who has since completed his Ph.D.) to develop a low-cost wireless earbud that can perform the screening using off-the-shelf technology costing only about \$50.

Justin and Antonio demonstrated the success of their device in a clinical study across two healthcare sites in Seattle. Their technology can be used in commercial wireless earbuds to give millions of people access to hearing screening that they can do at home.

Antonio reports, "This exactly the type of work that I envisioned in graduate school — developing impactful medical technology."



*Antonio Glenn, 2nd year
Allen School Ph.D. student*

ROBOT-ASSISTED FEEDING

Taylor Kessler Faulkner, Allen School Post Doc

Eating independently is a daily activity that many of us take for granted. However, a large number of people (1.8 million in the United States alone) cannot eat on their own. To address this problem, researchers in the [Personal Robotics Lab](#) and [Human-centered Robotics Lab](#) conduct research on [robot-assisted feeding](#). The assistive feeding robot, named ADA (the Assistive Dextrous Arm), consists of a fork-holding robotic arm attached to a power wheelchair, and the research on this project is an ongoing effort to enable people with upper-extremity mobility impairments to feed themselves.

Some of the research on this project focuses on technical advances such as improved bite acquisition. For example, recent work created a new set of robotic actions, informed by recorded human bite acquisitions, that can pick up proteins like chicken nuggets, continuous foods like gelatin dessert and mashed potatoes, and composite foods like rice and beans. Other research on the ADA robot focuses on techniques for improved human-robot interaction, like recent work that explored how robot-assisted feeding can address the needs of users with motor impairments while dining socially, which revealed many insights into how end-users may want researchers to improve assistive feeding robots.

Editor's note: The robot-assisted feeding project has been publicized in [Allen School News](#) and [UW News](#). See also the project's [publications](#).



ADA, the Assistive Dextrous Arm

ALLEN SCHOOL COLLABORATIONS ON ACCESSIBILITY-RELATED DEIA ACTIVITIES



AccessComputing: Broadening Participation in Computing (BPC)

AccessComputing is a national Alliance centered at UW that works to broaden participation in computing for people with disabilities across academia and industry. It was founded 17 years ago by Professor Emeritus Richard Ladner who led the Alliance for 17 years, and as he retires, he is now turning that position over to the Allen School's Professor Maya Cakmak. Additional leadership members – both with and without disabilities – include UW faculty Jake Wobbrock, Jen Mankoff and Kevin Lin, and Taskar Center Director Anat Caspi, as well as faculty from the University of California Irvine, Tufts University, and Gallaudet University. Despite its national mission and reach, many students at the University of Washington have benefited from its programs.

AccessComputing takes a multifaceted approach, including building support structures for students, forming collaborative partnerships with employers and educators, and the creation of a publicly accessible resource hub.

AccessComputing's academic programming has served over 2400 students, allowing them to excel in computing and realize their professional goals. Students who join the AccessComputing Team have access to mentoring, invitations to webinars discussing academic and career topics, and opportunities to attend prestigious conferences such as the Grace Hopper Celebration of Women in Computing and the Richard Tapia Celebration of Diversity in Computing. For those students eager to be involved in research, AccessComputing offers funding and placement into Research Experience for Undergraduates (REUs), where students have the opportunity to perform computing research at a university. AccessComputing also offers additional support structures such as funding for tutoring and an online community for Team members. These resources directly support students with disabilities, empowering them to achieve their academic goals.

AccessComputing's partners with tech educators, employers, and organizations through a collaborative ecosystem with the shared goal of increasing the participation of people with disabilities. The partnerships highlight opportunities for progress and provide the tools necessary to create meaningful change. Through regular meetings partners exchange insights, share inclusive practices, and address challenges together. Online communities of practices allow

partners to share knowledge and support asynchronously. One notable outcome occurred in 2021 when, after much lobbying, the Computing Research Association's annual Taulbee Survey of CS research departments began to include data about disability. This change is important because now CS departments will be able to track the participation of students with disabilities in their programs as compared to national averages.

Sharing resources is another core component of AccessComputing. Anybody seeking to learn about inclusive practices for education or employment can search its online knowledge base. Employers can take advantage of case studies including the lived experiences of people with disabilities, question and answer articles addressing disability and accessibility issues, and evidence-based practices that promote increased participation. Educational institutions can find tools and strategies on how to create a more inclusive and supportive environment for students with disabilities. AccessComputing's video library offers information about accessibility, and showcases the experiences and career achievements of people with disabilities.

AccessComputing's efforts have outcomes that extend beyond the disability community, as much of the technology created for and by people with disabilities ends up being widely adopted, making life easier for everyone. And, as Professor Ladner says: "Everybody is doing better because of AccessComputing."

Allen School students with disabilities can join the [AccessComputing Team](#) just by filling out the application. Computing faculty interested in learning more about accessibility can join an AccessComputing [Community of Practice](#) by emailing accesscomp@uw.edu.

Editor's Note: Professor Emeritus Richard Ladner is a persistent and remarkable advocate for people with disabilities both locally and nationally within the Computer Science education and research communities. He will be giving a lecture on his work with AccessComputing. Check the schedule for Allen School's events in recognition of the 50th anniversary of the 1973 Rehabilitation Act.





DO-IT and the Allen School: Helping the UW Embrace Diverse Talent

Scott Bellman, Interim Director of DO-IT, PI for Neuroscience for Neurodiverse Learners

Dr. Brianna Blaser, Co-PI for AccessComputing

The UW's Disabilities, Opportunities, Internetworking, and Technology (**DO-IT**) Center recently celebrated **30 years** of embracing diverse talent at the UW. DO-IT, founded by Dr. Sheryl Burgstahler who led it until her recent retirement, is dedicated to empowering people with disabilities through technology and education. We promote awareness of accessibility to help maximize the potential of people with disabilities and make our campus (and other campuses across the United States) more vibrant, diverse, and inclusive.

The DO-IT Center operates with funding from the State of Washington to help WA high school students with disabilities connect with the UW. Each summer, about 40 students live on campus for two weeks to learn about college life, connect with mentors, and complete projects such as building an accessible website or increasing the digital accessibility of campus units. DO-IT has also leveraged its state funding to secure over \$50 million to run **grant funded projects** from **sponsors** such as the National Science Foundation and the U.S. Department of Education.

Collaborators within the Allen school have played key roles in our summer camp and in grant funded efforts. Examples include:

AccessComputing, with leadership and partnership as discussed above in this issue.

Neuroscience for Neurodiverse Learners, with leadership and contributions from Professor Rajesh Rao, hosts an annual summer camp at the UW for high school and early postsecondary students identified as neurodivergent learners. In addition to providing hands-on experiences in neuroscience disciplines, networking opportunities, and resources for students, the project disseminates findings to teachers of neuroscience, and more broadly, STEM courses.

Allen School staff and faculty are encouraged to join the **AccessComputing Community of Practice** or other **Communities of Practice** hosted by DO-IT.



Professor Maya Cakmak working with DO-IT students at a workshop.



SPOTLIGHT: A PERSON YOU SHOULD KNOW

– Professor Jennifer Mankoff, Empowering People with Disabilities

Drew King and Lee Janzen-Morel, Allen School undergrads

In an interview with **Ability** Officers, Professor Mankoff, co-founder and current Director of the **Center for Research and Education on Accessible Technology and Experiences (CREATE)**, a multidisciplinary, multi-school center at UW, emphasized the center's commitment to accessibility through technology. The center is driven by research, education and translation, aiming for a diverse research team with 50% identifying as disabled. CREATE recognizes the "access tax" that disabled people often pay for access to the same services and opportunities as their non-disabled peers, and focuses on real-world impact.

Jennifer's personal journey includes experience as an academic with disabilities. While in graduate school, a repetitive strain injury derailed her academic aspirations. She took this as an opportunity to explore recognition-based technology and its potential to enable effective computer access for people with disabilities, thus allowing her to continue on her academic path. That persistence resulted in a Ph.D. and faculty positions in UC Berkeley's EECE Department and at Carnegie Mellon's HCI Institute before joining UW faculty. Here, her focus has shifted exclusively to accessibility research.

Jennifer advises accessibility researchers "For those without disabilities, ask yourself how you can contribute to actively supporting and uplifting people with disabilities in academia. For those with disabilities, you are not alone and recognize the access tax you pay. To both: We're glad you're here."

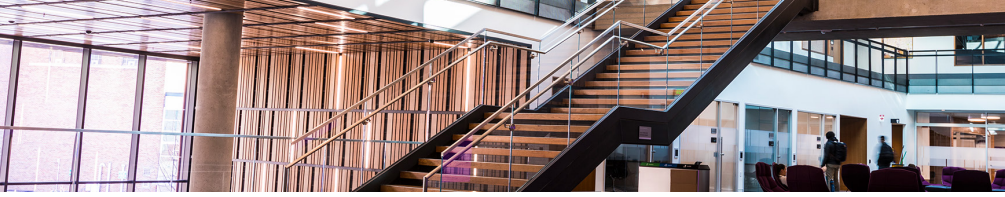
Jennifer's lived experiences highlight the impact that advocacy, support, and inclusivity have on academics with disabilities. Through CREATE, Jennifer hopes to amplify and support the powerful accessibility research being done at UW

and encourage the field of accessibility to encompass the full range of the disability experience. There is still progress to be made in including people with disabilities and Jennifer invites us all to be more involved with disability advocacy.

Outside of research, Jennifer has a full life. She used to play in an orchestra, but due to COVID safety concerns, she is currently just focusing on her household: including a 20-year-old, two 18-year-olds, a 90-year-old, her partner, chickens, and a garden.

Editor's Note: Jennifer Mankoff is the Richard E. Ladner Professor in the Allen School. Her research – focused on "giving people the voice, tools and agency to advocate for themselves" – has accrued prestigious awards but perhaps her most telling accolade comes from students with disabilities who describe her as "a fierce advocate." She is also leading the new Allen School Accessibility Committee (see the Announcements on Page 9).





ANNOUNCEMENTS

- This Newsletter is just the beginning. Check out the other events associated with the [Allen School's Recognition of the 50th Anniversary of the 1973 Rehabilitation Act](#) and **STAY TUNED FOR UPDATES!**
- The Allen School is launching a **new Accessibility Committee** to start meeting this Spring Quarter. We encourage students, faculty and staff to participate. Our goal will be to have a balanced group, not too large, rotating people into it over time. If you are interested in joining, please [fill out this interest form](#).
- Students: **YOU can help the Allen School's DEIA efforts!** Volunteer to build a list of student opportunities, suggest and maybe even write, edit or proofread Newsletter articles, propose some other ideas. Contact your friendly editor, Jan Cuny at jcuny@cs.washington.edu.

CREDITS

All stickers courtesy of AccessComputing.

