Access**Computing** OPPORTUNITIES! NEWS

...for Computing and IT Students with Disabilities

Dear Student,

This newsletter comes from *AccessComputing*. Funded by the National Science Foundation, *AccessComputing* serves to increase the participation of people with disabilities in computing fields. We apply evidence-based practices to help students with disabilities successfully pursue degrees and careers in computing fields.

Pages two and three of this newsletter highlight resources, tips for new college students and information on undergraduate research.

Pages four and five share a team member profile and information on attending conferences.

Pages six through eight include resources for computing education and careers, information on learning about accessibility, shared resources for disclosing disabilities, and information on *AccessComputing*.

AccessComputing Seeks Students in Computing Fields

Funded by the National Science Foundation, *AccessComputing* provides opportunities for students to learn about resources, locate internships and other work experiences, participate in events, secure tutoring for computing classes, develop disability disclosure and accommodation strategies, and network with peers and mentors.

The *AccessComputing* project is recruiting high school, community college, undergraduate, and graduate students pursuing computing careers. The *AccessComputing* student team member application is available online at *www.uw.edu/ accesscomputing/accesscomputing-team-application*. For more information, contact *AccessComputing*.

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Resources

AccessComputing and DO-IT share resources to help students with disabilities succeed in school and their career. Check them out!

- Watch the video *Graduate School and Students with Disabilities* (*www.washington.edu/doit/videos/index.php?vid=85*). By working with faculty and disability services, graduate students with disabilities can have successful grad school experiences, complete their degrees, and enter rewarding careers.

- Watch the video *How Can We Include Students with Disabilities in Computing Courses?* (*www.uw.edu/doit/videos/index.php?vid=64*). With the increasing demand for computing professionals, it's important that students with disabilities are included in computing courses.

- To explore programming, consult the Quorum tutorial, which is accessible: *http://quorumlanguage.com/documents/hourofcode/part1.php*.

- Our scholarship listings (*www.uw.edu/doit/resources/scholarships*) have something for all types of students, disabilities, and interests. You can find scholarships by disability, due date, or other criteria.

Advice From Disabled Students in College to Others With Disabilities

Tips and tricks other disabled college students want you to know as you start your college experience.

"Join a club for something you really enjoy. Not only is joining a club a great way to meet friends who have similar interests as your own, it can also be a good resume booster—especially if you end up in a leadership position down the road. I've been a very active member of Harry Potter Club since my first week at college, and now, four years later, I'm the president. I've met most of my closest friends through the club. Plus, it gives me something to look forward to every Thursday night!" K, University of Washington
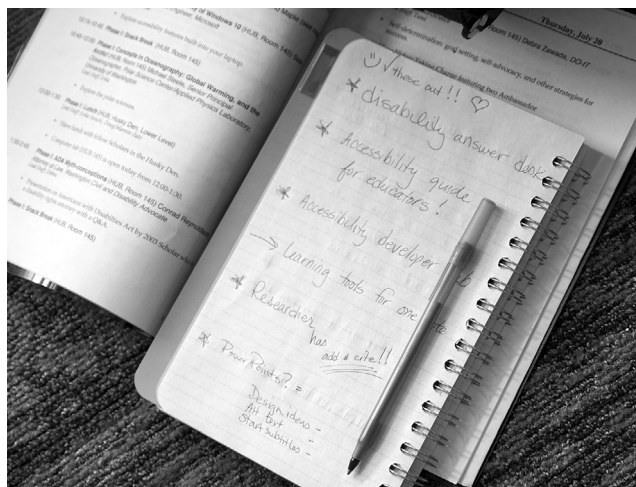
"Attend events… the first few weeks of school to meet people and get more involved in school. There tends to be free food and gifts as well at those particular events. Always stay safe! Confide in a couple of people you trust, such as a good friend or an RA (resident advisor) and discuss how your disability affects you and what they can do to help in unexpected circumstances. For example, I have difficulty walking so I have a group of friends who always make sure I arrive home safely. I also have a surgical magnet worn within the ear, so I can't receive MRIs (magnetic resonance imaging). My friends are available to let doctors and EMTs (emergency medical technicians) know of that particular situation." Mikaela, Washington State University

"See professors early for accommodations. College classes jump right into lectures, which makes it too easy to fall behind should you need something you don't have! I would want to tell incoming freshman to email teachers before classes begin every quarter to talk about your specific needs. Every one of my instructors has been very accommodating and flexible with my needs once I get in touch!" Lindsey, University of Washington

"Get as many available resources and opportunities as you can because you will never know what greater things will happen to you. In my freshmen year, I had a lot of resources such as getting help in certain classes and being able to talk to my advisors. Even though that I have plenty of time ahead to study before my future graduation, I realized that most of the resources and opportunities didn't last as long as I expected, and I regret missing out on some experiences and the help I needed." Jin, University of Washington

"Go to your professors' office hours! Do not be afraid to ask questions or get extra help. It will show your professor that you are eager to learn. Building a relationship with your professors can be very helpful. They are a good resource for internships, research opportunities, letters of recommendations, and even career advice." Alicia, University of Washington

"Make sure to get a day planner and use it everyday. Also make sure you leave time to do homework everyday because you do not want to let it get stacked up. Be yourself at all times regardless of what others think, but make sure to realize people don't magically grow up and mature during the summer between senior year and freshman year. Be prepared for another year of high school but on steroids." Ryan, Whitworth University

How Can I Get Involved with Undergraduate Research?

Research internships present opportunities for undergraduates to gain an exposure to research and consider whether they are interested in research careers and graduate school. There are several programs that allow computing undergraduates with disabilities to become involved in research.

- Distributed Research Experiences for Undergraduates (REUs) (*www.cra.org/cra-w/dreu/*) matches women and students from underrepresented groups, including students with disabilities, with a computer science or engineering faculty mentor for summer research experiences at the mentor's home institution.

- The Quality of Life Center at the University of Pittsburgh offers an REU Program (*www.herl.pitt.edu/education/undergrad/reu*) focused on rehabilitation engineering and assistive technology fields. They encourage students with disabilities to apply.

- Find more links to summer research programs that are interested in recruiting students with disabilities at *www.uw.edu/accesscomputing/how-can-i-get-involved-undergraduate-research*.

- There are many National Science Foundation sponsored sites for research experiences for undergraduates. Search for a site at *www.nsf.gov/crssprgm/reu/reu_search.jsp*.

Subject to funding availability, *AccessComputing* funds research and industry internships for students with disabilities. Email *accesscomp@uw.edu* for more information.

Team Member Profile: Serena

I am a computer science and math double major studying at Ursinus College and hoping to make the world more accessible for all. I'm also a creative writing minor.

I've always enjoyed stories. When I got home from school each day as a kid, I would watch the Public Broadcasting Service (PBS) show Cyberchase, a show about a trio of children who solve logic puzzles to save a digital universe. I grew up learning from PBS, which now has an autistic character in both Sesame Street and Arthur, so it was a privilege to work at the WTTW PBS and 98.7 WFMT radio center in Chicago this summer.

I attended the Kemper Scholars summer program, where rising juniors live in apartments together and intern at non-profits in Chicago. On the first day, the other employees welcomed me despite my social differences as an individual with autism.

I realized how we take so many services and agencies in life for granted without understanding how much work they take to operate. While I did automate a donor pledge schedule in Excel during my internship, non-profits cannot automate their relationships with donors. I had seen the on-air sponsor recognition growing up, but did not guess that far more than just a donation was involved. I wrote letters to donors who support new TV and radio programs.

I also expedited some spreadsheet tasks using Visual Basic for Applications and Excel functions. For example, I was asked to count how many of each unique zip code were in a large file. The employee assumed it would take me days or weeks, but a PivotTable performed the task in a few seconds. This allowed me to tackle other tasks that could free the time of the experienced employees who had deep connections with donors.

My passion for PBS pushed me to take my technical and writing projects in different directions, and some days seemed to pass too quickly. Some days were surreal, like when I watched an enchanting female violinist who had gone through dozens of surgeries after a train accident but never let go of her positivity.

I participated in a filmed boat tour led by Geoffrey Baer, a famous PBS figure. I saw the passion in the actions of Kerry Frumkin, the owner of a memorable voice I heard often on a syndicated classical music station back home.

Another intern and I helped at an event that promoted STEM and the TV show Nature Cat, which was inspiring kids to get off the couch and into nature activities, to local teachers. I wrote a stewardship report that described the powerful impact of this and other TV programs along with the radio station programs that included a showcase of children who play classical music.

Computer science students do not typically choose to work at or think of working at non-profits, but I would suggest thinking about causes you care about or have helped you that can use your skills. Non-profit work may not be as secure or routine as the corporate world, but the need to adapt and problem solve is what drew me to computer science. Think about what drew you to computing, and see where that takes you.

Attending Conferences as a Student

Finding and going to conferences as a student can be a great way to build a network, learn important professional development skills, be exposed to new fields and job opportunities, or present about your own research.

What conferences should you think about going to? Conferences *AccessComputing* students have attended include

- Tapia Celebration of Diversity in Computing (*www.tapiaconference.org*)
- Grace Hopper Celebration of Women in Computing (*ghc.anitab.org/*)
- The International Conference on Assistive Technology and Persons with Disabilities (*www.csun.edu/cod/conference*)
- CMD-IT Student Professional Development Conference (*www.cmd-it.org/programs/current/ student-professional-development-workshop*)
- CRA Grad Cohort Workshop for Underrepresented Minorities + Persons with Disabilities (URMD) (*cra.org/events/ urmgradcohort/*)

Students who attend conferences benefit in multiple ways.

"Tapia was great for networking. I made contact with graduate schools and big companies like Google, Microsoft, and Amazon. I was happy to be able to network with them and ask questions about the interview process." – Shareef

"I learned how and when to ask for accommodations, and what accommodations work better in different situations." – Kiara

"Most of my time in the conference was spent networking. I was able to network with students from various institutions and learn from their stories and experiences in the computing field. I went to the career fair and networked with multiple recruiters. I learned about companies and the innovative research they were conducting to help humanity." – Dhairya

"Attending the career fair at the conference was really beneficial to me from a professional development standpoint. Seeing that several employers were genuinely impressed with my resume gave me a confidence boost and made a career in industry seem like a real possibility." – Anna

AccessComputing has limited funds to support student with disabilities who are interested in attending conferences.

DO-IT Enters Disability Mentoring Hall of Fame

One of *AccessComputing's* lead organizations, DO-IT, is honored to be inducted into the prestigious Susan M. Daniels Disability Mentoring Hall of Fame. Granted by the National Disability Mentoring Coalition, this award recognizes outstanding leaders who mentor individuals with disabilities. DO-IT has facilitated an online mentoring community to support people with disabilities as they transition from high school to college and from college to graduate school and careers since 1992, recognized early on through the National Information Infrastructure award as the first of its kind.

Susan M. Daniels, for whom the Hall of Fame is named, spent much of her early life in rehabilitation settings due to complications from polio. She earned a Ph.D. in psychology and was an active advocate for disability rights throughout her lifetime.

We are honored to be inducted into the Hall of Fame. Individuals with disabilities make our communities more vibrant, diverse, and inclusive. We share this award with the mentors in our programs who serve as advocates, guides, and role models for others. DO-IT's success can be measured by the impressive accomplishments of DO-IT participants, including *AccessComputing* team members over the years.

Read the full story at *www.uw.edu/uwit/about- us/stories/do-it-honored-with-national-award-for- mentoring-youth-with-disabilities/*.

Where Can I Learn More About Computing Education and Careers?

There are countless resources online for learning about computing education and careers.

Computing Degrees and Careers

(*computingcareers.acm.org/*)
The Association for Computing Machinery has resources to help you learn about computing education. Learn about preparing for computing majors, skills you'll learn, and about different computing majors.

The National Center for Women and Information Technology (NCWIT)

(*www.ncwit.org/resources*)
NCWIT has many resources related to computing education, including the following: How can I prepare for a computing major? Which computing pathway is right for me? Which computing majors are right for me?

Association for Computing Machinery (ACM) Career News

(*www.acm.org/membership/careernews/*)
Subscribe to this newsletter to hear about the latest in career-related topics.

Institute of Electrical and Electronics Engineers, Inc (IEEE) Career Resources

(*www.ieeeusa.org/careers/default.asp*)
IEEE offers many different resources, including workshops, webinars, employment assistance, and career-focused e-books.

Why Should I Learn about Accessibility?

Many companies are interested in ensuring that technology is accessible to people with disabilities. Some companies are motivated by a desire to do the right thing in order to ensure access for all of their customers; others are concerned with the possibility of facing lawsuits if their products are in violation of the Americans with Disabilities Act. Because many students don't learn about accessibility in their education, companies must train their employees on these topics. This means that having knowledge of accessibility can make you a great job candidate.

What can you do if your school doesn't offer any classes on accessibility?

- Look for open source projects, summer internships, or research opportunities that allow you to learn more.

- Ask your department about the possibility of doing an independent study on accessibility.

- Find ways to learn on your own:

  o *AccessComputing*'s Web 2.0 Curriculum (*www.uw.edu/accesscomputing/webd2/*) is a web design curriculum that emphasizes standards-based and accessible design.

  o The Teach Access Tutorial for Accessible Mobile and Web Apps (*https://teachaccess.github.io/tutorial/*) will help you get a solid footing on accessibility via hands-on exercises and useful reference guides.

  o Deque is offering scholarships to people with disabilities to give them access to Deque's in-depth web accessibility curriculum for a full year at no cost. Find out more at *www.dequeuniversity.com/scholarships*.

The Thread: Disability and Employers

Below are excerpts from recent conversations in our online mentoring community related to disability disclosure and accommodations in the workplace. This gives you the flavor of the many rich conversations the *AccessComputing* community has online. Forum posts are edited for clarity and brevity.

I was wondering about the helpfulness of disclosing disability, specifically anxiety, on job applications? What are your thoughts?

AccessComputing **team member:** With a "unseen"disability such as anxiety, I suggest that you don't disclose it on your resume or on a job application, unless you know the company is very open to people with disabilities.

AccessComputing **mentor:** The only time I disclose my visual impairment before an interview is if I need an accommodation.

AccessComputing **team member:** My disability is prominently displayed on one of mine, but that is because my area of focus is accessibility. I want to garner the partial validation that I get from having an actual disability.

AccessComputing **team member:** For companies like Microsoft that have disability hiring initiatives, it might help you to disclose, but my general rule is if being disabled is not an asset for your job, why disclose? It might look strange to have your application stated this way: Did this thing, did that project, went to this conference, went to this school, have this work experience, and suddenly disability! when disability is completely unrelated to the job.

AccessComputing **mentor:** Unless you are applying through a program aimed at hiring workers with disabilities, I would not disclose until it is necessary. You don't need accommodations to submit a resume. Some companies have extensive application processes including taking timed math and/or logic tests, and I have disclosed in order to receive accommodations to finish my application.

AccessComputing **mentor:** If you do want to put your disability in your application materials, I would put it into the cover letter rather then the resume (even if this requires writing a cover letter) and I would put it in the context of why you're mentioning it.

I'm interested in observations and experiences with disability accommodations in industry and academia. I'm a graduate student, so I have seen (some of) how things work in academia, and I would be especially interested in perspectives of people who have worked in industry (including internships).

AccessComputing **team member:** It doesn't really matter if industry is better in general about accommodations. It only matters what the disability culture is like at the specific place you are considering working. If industry is generally better, but the place you are interviewing at isn't, then it doesn't matter. If academia is generally worse, but the place you are interviewing is really positive and progressive, then it doesn't matter what other institutions are like.

AccessComputing **team member:** Finding out what the actual culture of the organization you intend to interact with is the most important thing.

AccessComputing **mentor:** I advise against generalizing, regardless of industry or academia. Each institution could potentially be very different than the next. Earlier someone had commented that you should cast a wide net and explore many possibilities to find something that suits you. I agree with this strategy. However, in all likelihood, you need to limit yourself at some point to going the academic or the industrial route. Go with your passion on this decision, then cast a wide net.

AccessComputing **mentor:** I think you will find a great deal of variation between industries and companies. The smaller the company, the more accommodating they will be because they don't have as much bureaucracy to wade through.

About this Publication

For more information on *AccessComputing*, or to request this newsletter in accessible format, please visit *www.uw.edu/accesscomputing* or email us at *accesscomp@uw.edu*.

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