

Access Computing

NEWS

from the Alliance for Access to Computing Careers

Increasing opportunities in computing for people with disabilities

October 2016

Awards Abound for *AccessComputing* Partners

AccessComputing is excited to see many of our partners receive significant awards from national organizations over the last year, including the following:

- DO-IT collaborator and *AccessComputing* Principal Investigator Richard Ladner received the 2016 Association for Computing Machinery (ACM) SIGACCESS Award for Outstanding Contributions to Computing and Accessibility for his significant and lasting contributions to the development of computing technologies that improve the accessibility of media and services to people with disabilities.
- *AccessCS10K* PI and *AccessComputing* partner Andreas Stefik of the University of Nevada, Las Vegas was named a White House Champion of Change for Computing Education. For the last decade, he has been creating technologies that make it easier for people, including those with disabilities, to write computer software. *AccessCS10K* collaborator Jane Margolis was also named a White House Champion of Change.



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Engage in *AccessComputing*

Students with disabilities

- Internships
- E-mentoring
- *AccessComputing* Team

Educators & employers

- Host an intern
- Communities of practice
- E-mentoring
- Presentations
- Minigrants

When more citizens have access to computing opportunities, and when computing fields are enhanced by the perspectives of people with disabilities, we all benefit.

Find more information about these opportunities as well as videos, publications, and other resources on the *AccessComputing* website, www.uw.edu/accesscomputing.

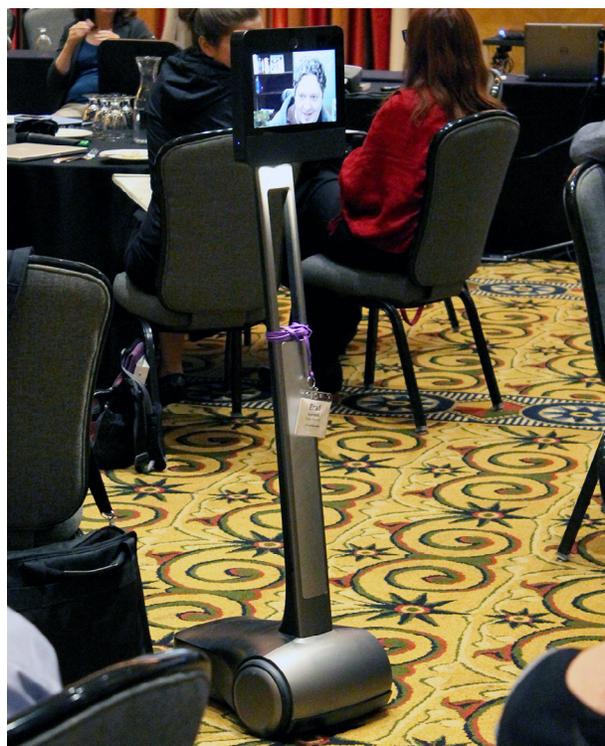
- *AccessComputing* and *AccessEngineering* partner Ayanna Howard of Georgia Tech received the Computer Research Association's Habermann Award for her work increasing the participation of underrepresented groups in computing, including students with disabilities.
- *AccessComputing* and *AccessEngineering* partner Jonathan Lazar of Towson University received the SIGCHI (Special Interest Group on Computer Human Interaction) Social Impact Award. Within the area of human-computer interaction, Dr. Lazar is involved in teaching and research on web accessibility for people with disabilities, user-centered design methods, assistive technology, and public policy.

Keynote Address Given Via Beam Robot

Attending and presenting at conferences is an important part of building a professional resume. However, traveling to conferences can be difficult, whether due to the time spent on an airplane, personal obligations, or a disability that makes travel difficult. Through *AccessComputing*, we have worked with students and faculty who have struggled with this issue.

The Beam telepresence robot, from Sutable Technologies, allows individuals to attend a conference remotely. The Beam Robot features a screen and two cameras. It moves about on wheels, allowing users to control the robot from anywhere via their computer and the Internet. For people with disabilities or those who cannot travel easily for other reasons, attending a conference remotely offers a way to still share ideas and network.

At the *AccessEngineering* Capacity Building Institute (CBI), held on April 5-8, 2016 in Seattle, Dr. Bradley Duerstock from Purdue University presented a keynote address on accessible hands-on learning via the Beam. Brad stood at the front of the room in the form of a Beam and used Skype to share his desktop so his presentation could be projected.



Dr. Duerstock moves around the room via a Beam robot to interact with the audience. Note that, like other participants, he wears a nametag.

After his presentation, Brad answered questions from the audience, moving about the room and facing each person who asked a question. Throughout the CBI, Brad was able to attend presentations, network with other participants, and participate in working groups and discussions.

The CBI was held as part of the *AccessEngineering* project, which engages faculty and students nationwide in efforts to (1) better serve a diverse student body, including students with a broad range of disabilities, in engineering courses and programs, and (2) integrate relevant disability-related and universal design content into engineering courses. Attendees included engineering faculty members, professional engineers, individuals with disabilities, disability experts, and engineering educators from universities across the country. The CBI had a particular focus on accessible hands-on learning and design and integrating information about accessibility and universal design into the engineering curriculum.

AccessComputing Industry CBI

In June 2016, *AccessComputing* held its first CBI focused on partnering with industry to increase the participation of people with disabilities in computing careers. Companies who are interested in diversifying their workforce attended to learn strategies for recruiting, onboarding, and retaining employees with disabilities.

Presentations included an overview of people with disabilities in education and the workforce, a panel discussion of computing professionals with disabilities, disability disclosure, Microsoft's Disability Initiatives, mentoring and hiring best practices, assistive technology, and strategies for supporting software engineers in technical workplace settings. To read the proceedings from this CBI, visit www.uw.edu/accesscomputing/resources/building-capacity-industry-recruiting-and-retaining-employees-disabilities-2016.

This CBI was part of *AccessComputing's* initiative to increase our partnerships with industry. Companies that are working to make the technical workplace more welcoming and accessible to computing professionals with disabilities can become *AccessComputing* industry partners to engage in virtual and in person events, access a resume database of computing students with disabilities, and explore opportunities to have individuals with disabilities test products for accessibility. For more information about *AccessComputing* Industry Partners, visit www.uw.edu/accesscomputing/about/industry-partners.



One CBI participant shares his ideas for best hiring practices with others.

In fall 2016, *AccessComputing* will be releasing a resume database of students and recent graduates with disabilities. Companies who become *AccessComputing* Industry partners will be able to access it to recruit interns and employees with disabilities.



During summer internships, students learn important skills and make networking connections.

Research Internships for Students with Disabilities Studying Computing

AccessComputing has funding for students with disabilities to participate in internships. Internships provide important experience as students move on to the next steps on their career paths.

Students with disabilities who are interested in summer internships should join the *AccessComputing* team by filling out the application at www.uw.edu/doit/accesscomputing-team-application. Student team members engage in online mentoring and are eligible to request referrals and funding for internships, travel to conferences, and tutoring.

Faculty and employers who are interested in hosting an *AccessComputing* student with a disability as an intern are encouraged to contact us by emailing accesscomp@uw.edu.

Annual Resume Contest

Throughout the year, *AccessComputing* Team members and other DO-IT participants hear about scholarships, internships, and other work-based learning opportunities through its electronic mentoring community. Having a current resume on file helps project staff understand exactly where participants are at and what they are doing so staff can offer internships, job opportunities, and career guidance.

To celebrate National Mentoring Month, we hosted our annual STEM Resume Contest for Students with Disabilities, via our electronic mentoring community. As part of the resume contest, resume advice was shared through the electronic mentoring community. Some of the resume tips shared are following:

- Keep a “master” resume that is as many pages long as you need to capture everything you have done. Then, with each opportunity you apply for, edit your resume down to only the relevant points.
- Reorganize your resume real estate. Sometimes your education will come first, other times it will be your job experience or maybe even your computer skills. Do not spend too much of your precious resume real estate on experiences that are not relevant to the position at hand.



AccessComputing Staff and mentors are always willing to review a team member's resume.



AccessComputing promotes students practicing interview skills with mentors. A well crafted resume and good interview skills will help a student land internships and career positions.

- Take a look at the job or scholarship posting and make sure the relevant key words used appear in your resume.
- A great resume not only shows what you can do, or what you have done in a work setting, but it shows things like volunteering or being members of certain groups and organizations. These additional items give potential employers a little more insight on your character.
- Allow your resume to tell a story. Use the top of your resume to tell potential employers who you are instead of just listing job responsibilities. Allow your resume to be a marketing brochure to tell your story.
- A resume should be 1-2 pages long. Recruiters and hiring managers do not spend a lot of time looking at each resume.
- Reach out to your college or university's career office. They have numerous resources for you to use as you create and edit your resume. University of Washington has especially great career resources related to resumes and CVs. For more information and tips, visit www.careers.uw.edu/Career-Guide.

- Proofread. Proofread. Proofread. We cannot emphasize enough how much typos in a resume sends the wrong message to employers. Carefully look over your resume to catch any typos and ask a friend or family member to read over it for you.

Winners of this year's resume contest were

- **Andrew C.** for getting all of the information that he needs to share with an employer onto a single page.
- **Anh H.** for a well organized resume that utilized the space effectively!
- **Ariel H. V.** for highlighting her education, work experiences in a variety of positions, and other activities that may be of interest to potential employers.
- **Densen F.** for doing an exceptional job of sharing how he contributed value to the places he gained work experience.
- **Emma V.** for presenting extensive research and work experience in a well organized manner.
- **Imran K.** for a well designed resume with minimal margins, a good use of white space and all information well organized and easily digestible.
- **Liliana B.** for efficiently breaking down each clinical, work, and leadership experience to showcase her skills in different areas.
- **Lisa H.** for writing a comprehensive CV that is still easy to navigate and digest.
- **Paulette P.** for distinguishing employment from related experience to emphasize a variety of skills.
- **Shuxu T.** for highlighting in a clear format the skills she's developed from various professional experiences.
- **Soumil V.** for formatting in a clear and concise way that allows an employer to find information easily.

Regardless of whether or not *AccessComputing* is currently running a resume contest, staff are always willing to provide feedback on resumes and help participants fine tune job or internship applications.

AccessCS10K CBI

This past February, *AccessCS10K* held *Increasing the Participation of Students with Disabilities in K-12 Computing Courses* in National Harbor, Maryland following the Computer and Information Science and Engineering/Education and Human Resources Principal Investigator & Community Member meeting. Attendees included over twenty-five postsecondary faculty, individuals who provide professional development for K-12 teachers, secondary teachers, disability services professionals, and individuals with disabilities.

Presentations from Sheryl Burgstahler, Andreas Stefik (University of Nevada Las Vegas), Sarah Wille (University of Chicago), Emmanuel Schanzer (Bootstrap Project), and Amber Wagner (Kennesaw State University) focused on strategies and technologies that can make K-12 computing education more welcoming and accessible to students with disabilities. Participants spent much of the meeting in working groups further delving into these topics.

Proceedings are posted on the *AccessCS10K* website at www.uw.edu/accesscomputing/accesscs10k/resources/capacity-building-institutes. These proceedings share pertinent resources and discussions, including information about the accessible programming language Quorum.



At the AccessCS10K CBI, participants discussed ideas for increasing accessibility and participation for students with disabilities in K-12 computing education.

AccessComputing Team Member Profile: Emmanuel



“Mom! How do you spell PBS-kids-dot-org?” said five-year-old me. “Here, let me do it for you,” my mother said, pulling over the keyboard to the box computer and typing the website in. Every

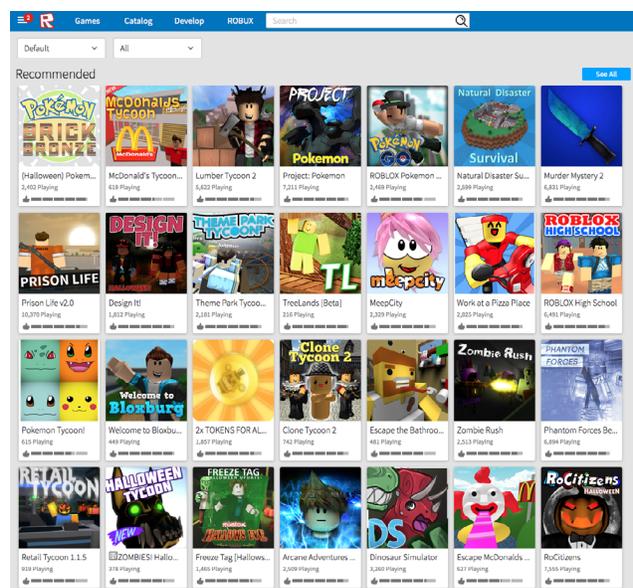
time I asked her, I would watch every key she pressed, trying to remember the website address so I would not have to ask her again. The day my mother bought our first desktop computer, I knew this is what I was going to love to do. Computers started to become my passion and I realized how much they allowed me to do.

Energetic and curious, my thirteen-year-old self discovered a web community called Roblox. I had to create a character, and in order to move up in the Roblox community, I had to gain recognition through developing games that any Roblox member could play. This was my introduction to game development and how I learned coding language called LUA, and I developed my first Roblox game. After some time and promotion, my game eventually got featured on the homepage of the Roblox website.

That experience showed me that these skills were applicable in the real world. Eager to broaden my skills in programming, I started to search for ways I could learn more. This was a difficult process because learning to program was expensive, and we couldn't afford to pay for classes. I eventually discovered Codecademy, a website that teaches anyone how to code various languages, and I learned Javascript, HTML/CSS, Bootstrap, and many more.

When I was fifteen-years-old, I started to spend a lot of time at Philadelphia Futures, an after school college preparation program, so I could focus on learning more about Javascript. Sitting in the computer lab coding, I was interrupted by the Philadelphia Futures program assistant, Akilah Abdul-Rahman, who told me “You know that this knowledge can definitely get you places, right?” At that moment, an immense amount of motivation developed in me, and hearing those words, it was proven to me that I could make a career out of coding. The best thing about that was the fact that I actually enjoyed coding.

The awesome thing about programming is the fact that I can do anything with it. Finally finding a way to release my creativity and eagerness to learn more, I've created websites, games, and even mobile games. There is no limit to all the things I could do, and I still have many things I am eager to create and many more things to learn. Even though there were a lot of obstacles on my journey, this has never stopped me. I know I am only getting stronger and more dedicated to my work and future.



Roblox is a website that promotes youth ages 8 to 18 to design, code, and share games.

The Thread: Task Management Applications

Below is a question posed by a student with a disability in our e-mentoring community and some of the responses so that you can get the flavor of the many rich conversations the *AccessComputing* community has online. Forum posts are edited for clarity and brevity.

Anyone use a killer task management website or application? Having ADHD, I often get overwhelmed. I use Google Calendar, but I find it doesn't fit all my needs.

AccessComputing Staff: I have heard good things about www.any.do/, but I haven't dug into it. I've also heard good things about EverNote and Microsoft's OneNote.

AccessComputing Team Member: I use Any.do for free on my phone. I am a strong proponent of lists. However my major complaints for Any.do are the font size and inability to color code—there are small color markers, but you can't change the background or highlight.



Applications can provide access to individuals with disabilities, especially attention deficits and learning disabilities.

AccessComputing Staff: I am a very visual learner, and sometimes apps put things out of sight out of mind. I like having a classic planner like Plum Paper where I can customize the sections for work, chores, bills, etc. I've also used the app Hours, which tracks what I'm doing and for how long. I also sometimes just set a timer so I can focus on one activity for a limited amount of time.

AccessComputing Team Member: Since I am blind, much of this software can be inaccessible and doesn't work with audio or is very slow and tedious while looking through color codes. I tried using MS Outlook's task management, but I gave up. I ended up settling on just a text file (Notepad) that I manage myself. I'll make different text files for each project. Maybe I am biased because I can't use a lot of the software out there, but it seems like more effort to use the software for me than just keeping these text lists.

AccessComputing Team Member: From my understanding, MS Outlook has a very accessible task schedule that works with Jaws. I personally keep a planner with events and to-dos. When I have a ton going on, I think the task apps can be helpful for never forgetting the little things. A long to-do list adds stress because the list can seem endless, whereas daily tasks are more mentally appealing, even if this means micromanaging tasks.

AccessSTEM Team Member: I use a combination of Wunderlist and Ical to organize my tasks. I really like Wunderlist as it has a built in reminder and priority system and can be synced across platforms. It can also export task lists and send them as an email attachment if I need to print them out.

AccessComputing Team Member: There is an IOS app called Errands that I use to prioritize my tasks.



Task management applications can help students and professionals keep track of their obligations and to-do lists on the go.

AccessComputing Team Member: Task management is an issue that almost everyone deals with. If you are looking for something simple, Trello works with both web and mobile. It can handle team projects by assigning different people for tasks. Trello organizes things by project, where you then create tasks as part of a project. There are color labeling options and priorities, and you can post comments, and attach files.

AccessComputing Team Member: I also have ADHD and struggle with managing my to-do list. I've found the most success in following David Allen's Getting Things Done methodology, where you basically write down everything you need to accomplish, and then sort these items into project categories. The two apps that work best for me are EveryTask and Wunderlist, both of which allow you to set reminders and priority levels.

AccessComputing Co-PI: It's important to prioritize projects, but I also like to think in terms of a timeline, so progress can be made on all projects. I like noting my tasks in a calendar format, whether electronic or paper. I have tasks listed for each day, and when I don't finish something, I move it to another day. This can also help motivate me to finish things quickly so I don't have to move it.

AccessComputing Staff: I appreciate this thread because I love to-do lists and organizing my tasks. I use a written list and also use Google calendar so if I need to remember to do a specific task by a certain time I can have a reminder email.

AccessComputing Mentor: I also use Trello, which can be organized into to-do, doing, and done. It is great for tasks not done in one sitting or take many days, or tasks with multiple parts. There is a great sample to see how it works here: trello.com/b/TO0Du5t7/job-search-sample-board.

AccessComputing Staff: I like Toodledo.com—it allows me to enter a due date, priority, status, and notes. I can then create filters that allows me to see things in different ways. It has a very intuitive, easy-to-use interface and has both an iPhone and Android app. It is also pretty accessible with VoiceOver.

About AccessComputing

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