Tell me about yourself

A: my name is Ashley, im 20. (freidriechs ataxia), turning 21 in march

G: And what are you studying in college?

A: I'm studying computer science. I'm a junior at San Diego State

Describe your disability

G: Alright. And so can you like briefly describe your disability and how it affects your daily life.

A: my disability is a neuromuscular condition. It's progressive. I was diagnosed about 7 years ago and started using a wheelchair about two years ago. It affects my life um, i guess I mostly have a wheelchair to get around which is like, I've really discovered how inaccessible everything is. I would say and it makes it to where I like constantly have to ask people for things like every single day. I just feel like, Oh, can you hold the door? Or like right now I'm trying to be grab bars Put in my bathroom. It's taking forever, forever, and it's just one of things When I was 1st diagnosed I thought it would go all too physical. But it's a lot of mental energy, just like asking people for stuff. i am always really nervou that I'm gonna fall. And mess something up like I broke my nose last year. and I hurt my ankle this summer so just like falling and like messing up my mobility.
but I did start the medication in august of last year and that's supposed to stop regression.
so far it's been working really good. But when I was 1st diagnosed. There was like nothing. So it's like, Okay, like it's gonna get worse every year. And then eventually, like, I won't be able to live on my own, and I won't be able to do anything on my own. So I was like---that was a lot to figure out and had switch my mentality and do everything i could as soon as possible if that makes sense.
and then my condition affects my whole body. So like even my speech, I don't necessarily have the most slurred speech, but, like most people with my condition have really slurred speech. I am always worried it will get worse. Also, I am losing feeling in my feet, cause I guess the nerves are dying. I am just not as strong as a nondisabled person.
Luckily, it does not affect anything in my brain. It doesn't impact my smart level. And when I tell people that I major in computer science-- well, able bodied people for sure-- they are like oh my gosh, wow!!! You must be sooo smart!

G: Okay, cool, thanks for sharing. what is your relationship with math? Like.

Relationship with math

A: I love math a lot. I've always liked it a lot more than English in school. Because there's well---I guess, not on level. But there's a set answer to problems.
And like, you know, you *know* that the answer is right. And you can like argue with the teacher if they mark it wrong. But like their English. But like in english, the the teacher can just slap a grade on the paper and make up any reason for that. math is like really straightforward. Like, if you just look at the problem, it has this and that, So I'll solve it this way. And it's like, pretty consistent, i would say.

G: So you like. Like the rigidity and consistency of it, you would say like that? There is one right answer. Why is it important for you to be able to argue with your teacher that it's right.

A: I really like to get good grades. Okay.I feel like I've always been like that definitely. I would say a lot of that is because I I'm really competitive. I haven't been able to be competitive in sports really, so it's really fun to be competitive in that and argue with the teacher. I like making sure my grades are right, and like with math.

G: do you feel like math is like about memorization, or like, what do you think are like the skills needed to be good at math.?

A: I think. Well, I honestly think, like some people's brains-- at least, the way that we teach math in schools--- I think that some people are able to grasp it and some people cannot grasp it. It just clicks for me. I guess I guess, memorizing the way to do a problem and then I am able to see a problem and recall what is needed to solve that problem. But i have some friends cannot do that. I guess the wires in their brain are a little different *laughs*

G: I heard you make a distinction where you said you said some people's brains can grasp it and others can't.But then you explicitly said, the way that it's taught in school. Yeah, like, why that specific?

A: Well, I would say. because, like, I have different teachers for like for algebra and stuff, I've had different teachers throughout the year. Give me different methods for, like solving a specific problem, I can't really think of like an example right now, but like and then my friends will show me the problem, and they'll like, Show me how their teachers solved it, and so I am like That doesn't make a ton of sense. And then I'll like. Give him other the way that I've learned or like. Or go on youtube, there's all these different ways to solve a problem. like, some ways work, and some ways don't.

G: So there's always a set answer. But I'm also hearing that there's several different ways to get there. Okay, do you like that about math like that? There's a bunch of different ways to get there? cause it kind of sounds like English in a way.

A: Wellllllllll. I I guess I like that about math, because some ways like I prefer it than other ways. Well, like I think it's different from English, because there is a set ansswer. Answer. I guess, like a teacher, might be grading you on how you get the answer, but like I know a method is working when I get to the answer. Like if a do method, and i get the correct answer, I can usually tell if like that method actually worked or if i actually fudged the numbers.

G:I mean, what I'm hearing is like, you're getting this feedback. Yeah, like, math gives you feedback right? Whereas in English like, you could just word vomit everywhere. And you have really no idea if you or making any sense. Yeah. But if, like, you got X equals 5. Like, even if you're not 100% sure how you got there. You know that there is a method that you were doing that was working. Okay, yeah, okay, so you're liking. The method sounds like you like the rigidity cool? So how do you use your math in day to day life?

Using math in day-to-day life

A: I mean, I probably am using math like at one level that I don't really recognize.I mean as a computer science major, my classes well, like I had to dake a ton of physics last year, which was calculus based. And I'm like, why? Because we in physics we didn’t use calculus. But I really like, they want to make sure that you're able to problem solve in that way before they let you into class. let's see, I like yeah, they wanna make sure your brain like works in the right way that you are able to prolem slv But like, you can say that works in the right way that you're able to problem solve like that. And I think that's why, like physics and calculus is a requirement for computer science, because your science is a lot of problem solving. And like, I think that is why physics is required for computer science, cause like CS is a lot of problem solving and like trying to figure out different ways to get a solution and not be stuck and be really frustrated. So yeah, I don’t just like do algebra in my day to day life.

Tell me about climbing

G; Okay, cool. So then, how long have you been climbing for?

A: I have been climbing for like two years, both indoors and outdoors. Like twice a week.

G: how did you become interested in rock climbing?

A:I went to college, and I used to horse, and that's not sustainable like far away from home. so I really wanted a sport that I could do : I had seen like an adaptive rock climbing on Instagram, and so I just looked it up and I found Jono.

Problem-solving in general

G: I already have a lot of tangential questions. So I'm going to stick to the protocol a little bit longer. How do you define? It's not an easy question to answer. That's why I'm doing my dissertation on it. Problem solving in general.

A: yeah that's a super open-ended question.

G: I heard you use that language a little bit with CS. you know, we know that there's problem solving in rock climbing. There's problem solving in math. There's problem solving and interpersonal relationships. When you have a disagreement with someone, when your GPS stops working like, what are all those commonalities?

A: What's common between all of those is that your past experiences really informs how you answer the question or how you figure out the situation. I feel like it's like the nature versus nurture question. I think problem solving is a lot about like nurture and how you were raised.: like, say, the GPS wouldbe breaking while you're a kid, and you were on a road trip like your parents yelled and like got in the fight, and like you would probably become anxious when that happens. Um, or if they were super calm then I think you're like taught to be more calm in that siutation and just like figure it out.
But I also think that like it is how your brain is wired. For me, I love CS and i love the problem solving element, and like getting stuck on a piece of like coming back to work on it in a couple of hours, and like just like working and like how it feels like once you found the answer to that. But I know that some people absolutely hate that.

G: And like, what do you like about it like you're saying like. you're stuck on something you come back to it after a few hours. That feeling of a resolution. But I don't know. I'm hearing. I'm hearing a lot of things here. It's like, I love the nature of nurture thing that's really, really cool. And I love the lived experience

like leverage your lived experience that informs how you problem solve. But then you also switch gears. And we're like, but it's also how your brain is wired…. So what about your upbringing Has made you interested in problem solving in a more like in the way that you problem solve.

A: well, I have a lo of strong role models in that area, like my grandparents are professors, parents are in computer science. like, I'm just like, especially like my mom and stuff. I've seen that :I can do it. I guess like, it's like, Okay, she's doing it. I can probably do it. And then also, my like, dad is really like calm with stuff I feel like that's really helpful, because, like my mom is more on the anxious side. So I definitely have a lot more of her like anxiety and like stress for like stuff. But from my dad, like I've seen like how calm he is. And like, obviously, I've seen how that can be like being too calm is bad, but like that's helped me a lot in my problem solving.
So like, I tend to get really frustrated if I get a coding issue. And I'll like really weird stuff about it. But then I like, take a step back and I play back to my dad and just like kind of ignored it then when you come back and you'll be fresh!
for my upbringing, I guess I've always just been in like hard classes in school like, and my parents were never like Oh, like you have to get good grades like they were pretty like chill about it. But I put so I put a ton of pressure on myself to do get good grades, and like actually learning all the stuff.

G: So then you know, your definition of problem solving in general, is your past experience really forms, how you answer the question, or how you figure out the situation. You have this nature element.
but then you also have or nurture element. But then you also have this nature element? : so would you say that problem solving in math or computer science like, is that congruent with your definition of problem solving in general? Or are there any distinct differences?

Problem-solving in math

A: I honestly feel like it's pretty similar.

G: So you feel like, do your lived experiences, past experiences help you in math and computer science to problem solve?

A: I……. I guess not really. Because I feel like for math and CS and stuff like that it's all like in your head. And I feel like, i I haven't really like … i guess you're not able to really see how other people are workin through it in their head. So like, it's not as much a lived experience.

G: So when you're saying past experiences, it's not just your past experiences, but the past experiences of the people around you, too.

A: Well, I think it's my past experiences interact with other people. And like me, me, specifically watching how they interact with other people and the world. Me specifically watching how they interact with the world.

G: Okay. So when you're saying past experiences that's considering your community and the people that you're directly around. Yeah, that informs the way you problem solve. Like your dad being super calm, your mom being anxious, taking in those elements that informing. But when in math you may not get to see that overt strategy emerge. And so how is that going to help you Problem solve, if you're not seeing how other people are engaging in it. Is that kind of what you're saying?

A: Yah. cause math is in your head. I mean your teacher may write on the whiteboard. But if they don't share their thought process and go step by step and don't explain their thinking, then it's harder to grasp

G: So then how would you define problem solving and rock climbing.

Problem-solving in climbing?

G: Do you feel like you're problem solving when you're rock climbing?

A: yah, yeah i do. I feel like. I mean, I've like watched other people climb and like sometimes like the coach will like like, Oh, try this! But for me personally. that doesn't really work for me, that well, like I would say, like one out of ten times, if jono is like try this hold. I will try it and usually it doesn't work for me. with rock climbing, problem solving it is a lot more personal and my disability is so rare. I have to try it to like ya know it. have to sit there and look at the route when i am stuck, sometimes i have to try the move 10 times. Usually, if you try to tell me specific movement ill try it, but i make it my own. So yeah, overall I would say problem solving is a lot more personal in rock climbing.

G: your definition sounded personal, too. But it was like drawing on your lived experiences and others. And then in math, it was kind of like it sounds personal or not. Right? Yeah. Would you say it's similar then? Because, like. How, I guess my question : is, how is problem solving in math and problem, solving in rock climbing different for you? They both have an element of personalization, because one is because of your rare condition that makes it unique for you to problem, solve on the wall. But then in math. you don't really get to see how other people are doing it. So like, do those feel similar to you? And then, or

A: they are different. I mean, yeah, like, I can't really see how other people are doing it. But if the teachers like. Oh, like, put it this way, then, honestly like I feel like, because I have such a strong base in math that I can do it. honestly, no matter what way they tell me like I'll be able to figure it out and do it

but like the rock climbing tall strong climber would be able to do what the coach says, no problem. Even if its not the most strategic. In that way is it similar. But it's not similar for me. Cause in climbing, my disability is so different from the coach.

Planning a route?

G: These are really cool Points. Thank you. Do you feel like you plan a route on the ground?

S :I will look a route and wonder if the holds look nice. But i do not plan from the bottom of a route. I will look at the route, and be like, oh, like, would I like that? But I'm not thinking about the moves. i **am not envisioning moves.**

G: Why do you think that is?

A: for me, i have to feel it. I need to feel how the movement feels in my body Oh, like I'll grab here and grab here like I can't really tell all of my muscles, or like if my right legs is going to be able to push up that high, or if my hands are high, then that might just be like experience. and also like. I mean, obviously, there's a point to it. But like I also really like this, sitting on the wall and like trying to figure out like, even if there's a move that I am stuck on, I have a really addictive personality and really just wanting to try to move over and over again. And I was like, okay, like, once I get this move I can come down.

G: before I ask that. So you're not really planning on the ground. But I feel like you do take a lot of breaks, and when you're taking breaks you are kind of planning. Then, right? So you're planning is more. This iterative process on the wall, like you're at this point. So what are you thinking when you try and move and you fall? And you're hanging there? What's your thought process?

A: Well, first, I'm like, okay, like, how does that feel ? why did i fall? Was everything in the right place? Did i lose strength on that specific move? And then I will look at all the holds that I have available Usually I'll try the same move, like 3 or 3 times like unless it hurts or obviously will not work. Or if it hurt, I will wonder if I switch my foot this way, or… on moves that I don't know the answer to yet. I tweak one part at a time and keep doing that over and over again. I don't lower and like try the move

again, I probably should like to actually like, really learn it. I will like come back to that the next time and try it again though and see if it feels easier.

Tweaking a move// taking a break

G: So I like this thing of… if I don't know the answer to the problem, I tweak one part at a time and keep doing that over and over again. Is that how you think like you approach like coding

A: I would say that is mostly approach how i code. I tweak one part over and over again. And then if i get too frustrated, I go back to know what i know worked and then try to add different pieces. I will only do that after taking a break though.

Disability and PSing?

G: do you think that your disability has impacted the way that you problem solve?

A: Hmmmm….. definitely in rock climbing. I don't know in math. But it has definitely helped me get to a point where I can be okay with giving up. I am now better at accepting that, and like being able to walk away even if it is unfinished.

G: Were you like that before?

A: Um, I don't think so. I am really really stubborn. So I'm still not the best at like giving up and walking away. But I would say that actually helps a lot with my disability, because it enables me to do more stuff. But I would say before, like before, there was like a hundred percent stubborn and now it is like sixty percent. I would say it comes down to trying different methods and learning when to call it. Not in math, but in other areas.

G: like being more adaptable? This method didn't work like, let me try something else. Let me tweak a little thing here, and let me tweak a little thing here

A: being more adaptable, and then like even like, before I go into a situation like having having 3 backup plans for things that I can try.

G: How does that show up like? Can you give an example like just when you go out and do something like, Are you like more aware of how things can go wrong? So you kind of need like a backup plan.

A: this is like a really simple example…Go to a restaurant i have never been to before, but there is no ramp, have my friend help me get up the stairs, when i get into the restaurant, the transfer process or like, when I get into the restaurant being like, okay? And I get to my table, and planning out like 5 different scenarios for how something will go, and like preparing myself mentally for, like all those different scenarios.

Better PSers?

G: do you think that disabled people are more creative problem solverA: in general?

A: well, I feel like, if I've only thought about myself, I would say. because i am willing to try out different scenarios and all the different ways it will go. I am way more Okay with the situation not working. I guess being adaptable.

Creativity

G: So you said yes to the creativity. So then my next question is, how do you define creativity?

A: Hm…. *hesitates* [inaudible] something that doesn't align with the traditional way of thinking.

G: so to revoice, Creativity if I had this way of thinking. Creativity is something that doesn't align with the traditional way of thinking.

A: ya. A different way of approaching the answer.

G: Process or answer?

A: I Would say both.

G: so it's a different way of approaching a problem. Yes. Is that what you would say? Yeah.

So do you think that disability could make you given that definition a different way of approaching the problem? Do you think that disability kind of gives you a 1 up on being more creative and not just you, but like people in the disability community?

A: I mean, yeah… I would say Yes after some time spent navigating my disabilty, I would say I am more creative in my problem solving, but not creative in the arts and crafts kind of way. Um, but like after accepting your disability and like spending time in the world with your disability, You're exposed to like so many different types of problem and because every disability is so different, there's like so many different ways to solve the problem. And it is likely that you would become creative from this process.

G: and you say that a part of it is you have to accept your disability first.
why, I agree. But why explicitly say that?

A: if you dont accept the disability, you will be defeated and the world will suck (which sometimes it does), but you will be like nothing is going to ever work for me. But i think to accept your disability, you can actually start to work through the problem and find a solution. You have to be *willing.*

G: So you made this distinction between arts and crafts, creativity and creativity, which just means a different way of approaching a problem. What's that difference? Why specify

A: I guess, I made a distinction, for me, I am not creative in arts and crafts, I don't like want to… [inaudible]](i am not creative in arts and crafts, write a book, paint a mural, being able to come up with something beautiful, i dont think that applies only to disability *at all*] I don't have that skillset wired in my brain. I am not capable of coming up with something beautiful. I don't think that applies to disability.

G: okay, I'll put I I won't push back on that too much. I have questions. But okay. So then I have another question. Then, like, if you how do you define intelligence? And if you meet somebody like Damn, that person's super smart like. What are the qualities associated with that?

Smartness

A: ummmmmmm, I mean I know like honestly this is bad, but like definitely if they have a college education; and it has a lot to do speech the way they talk and the way they interact with people and the questions they ask you and how they are listening. I mean like you can be super smart in math or

something and they are horrible at emotional intelligence and stuff like that. Intelligence is definitely a spectrum.

G: Alright. What would you say? Are the properties of a good problem of good problem solving like, what are some like? If you were to meet someone that was like particularly good at problem solving whether it's on the wall or in math, or whatever computer science like. What are some of the strategies that you would see them using?

Properties of good problem solving

A: definitely, I can't think of the word for it right now, but like creativity, and like willing to change your answer, learning to try different ways to go through something. Being adaptable. I guess the opposite of stubborn --- flexible!! I think their demeanor when they're solving problems. Be okay with taking a loss and able to bounce back. Obviously they can get frustrated. Like of course it is okay to be a little frustrated and to be passionate about the problem are you trying to solve, but you have to bounce back and like be calm, but don't be too calm. I mean, don't be lazy.

G: sounds like you're talking about your parents. *she cracks up* like, Be passionate, and that's great. But also you have to bounce back and be calm, but not too calm. Yeah. So that's interesting because you have that continuum. You have that spectrum that you draw from from like your childhood of like being such different: like drastic energy. Right? .

G: okay, so creativity, creativity and like flexibility. But for you, it really sounds like taking a loss is so important. Why do you think it's so important for you to say like. Take your losses, like, why is someone like Gavin like, Never give up. : and then, like you and Tanner are more like nah dude, Sometimes you just have to call it

A: well, i don't know if this is bad to say but on the spectrum of disability… gavin has a lot of privilege. Externally, he can put on a pair of pants and no one would know. And i think that he is definitely able to ike he's actually like he's able to navigate inaccesible situation, whereas, like me and Tanner, like, yeah, someone can carry you up a flight of stairs but the world is not made for us. You have to just be okay with not doing something. Someone like gavin can just like power through it and figure it out, for me and tanner, it's literally impossible.

A solution to every problem?

G: So do you think that there is a solution to every problem?

A: Um….. no! Honestly no. i feel like even with the ADAA, if you try to make everything accessible, it just won't work for everyone. It is really hard to modify most stuff that is already built, people are so set in their ways (like a restaurant has 5o tables they won't cut down to 30 tables so that i can navigate through it with my chair) Yeah. I don't think that there's a solution to every problem.

G: in what ways has climbing impacted your relationship with your disability or your perception of it?

A: It's really helped me a lot. Jono was the first disabled person I really talked to and formed a friendship with. It helped me—because I started climbing pretty much right when I started to become a wheelchair user—and he helped me to accept my disability a lot and be okay with being in a wheelchair. So a lot of it comes down to the community. I think Tanner was the first wheelchair user I ever talked to, to learn a lot of stuff about navigating the world with a disability. So community for sure. And I guess climbing itself has really helped me to feel strong and feel like I can do stuff. And because climbing is so adaptable, it has helped me to figure out how to work around things and keep trying

G: Jono has been really important to you, huh?

A: Yeah, he changed my life.

What has climbing taught you?

G: yeah, what are a few words that would describe the lessons that climbing has taught. sounds like community, yeah, just like. or just like in general, like.like, we've talked about how it's impacted your relationship with your disability, and, like essentially like, helped you to accept your disability. Come into a community with such a gradient of disabilities. And nonetheless, like, you guys have this commonality, and then, feeling empowered. Sounds like, that's a huge part of it. Being adaptable and helping you to work around something and keep trying. Is there anything else.

A: I feel like that really covers it!

Success on a route?

G: Well, no, I I like when I take a really big fall on a route I would call that successful. If I'm like whipping and falling 30 feet. I'm like that was a successful route like what do you call success on a route like when you come down? And you're like : that was a good route like I that was successful

A: I If I'm stuck on a certain move, I do it until fatigued and eventually get that move. Definitely *not* getting to the top, that's not a measure of success that I use myself. How I feel after, if it's fun and challenging and I was able to get through the challenge. If it is super hard, getting one foot off the ground, even just one move on a super hard route, I would qualify that as successful It took me a couple of months to even make it to the top of the wall. Just do a couple of different routes . I only have so much energy. When I go to the gym, know I only have three routes, so I need to be wise about what I choose to climb. so it's it's yeah, like fatigue. I'm like preserving my energy. I can only do three routes.

What is climbing like for you?

G: And so like, when you are climbing like, what is that process like? Like, I know, it's so different than what like are you able? Do you have a lot of sensation in your feet like, what is that like: like for me like when I'm climbing. I'm like looking up. And I'm like resting a lot all the time all the time. : And I'm like, Okay, what's my next 3 sequences? Okay, how do I get to the next? That next one like, what are you? What's your process like: like? Are you just thinking? Get to the next move, are you not even thinking that like?

A: When i am on the wall, I am working on my feet a lot. I have like, maybe like 50% feeling in my feet compared to like average person. : And so I have to look at every placement and I have to like look for the really secure my foot before I like move to the next move. And then when I rest, I have to actually rest and hang out for a little *laughs* and then I look at the wall and think about the next move. I don’t actually move, i just think about it. Then I am ready to go. Then I count to ten till I actually let myself go. Sometimes I will only try the move at 50 percent. I just want to feel it, I don’t want to actually do it. Then I will stop and try a different way if it doesnt work. That is why I have to trust my belayer cause I don’t want them to get bored. I get nervous with new belayers.

G: Yeah, man, I think we hit. Is there anything else that you want to say about problem-solving rock, climbing disability math, or anything?

Final words

G: I guess I like what Jono said about redefining the climbing.

A: Sometimes, I can't climb. Instead, I will just belay. When I had my surgery in January I would just come to the gym, not climb, not belay, just be there.