

Week 9: Panel

12.5.2023

- Welcome + Icebreaker!
 - What ice cream flavor sums up your life today?
- Introduce panelists
 - Lane Van Elderen (SWE)
 - ~~Sev Huffman (SWE)~~
 - Nathan Brunelle (Allen School Assoc. Teaching Prof)
 - Leilani Battle (Allen School Asst. Prof)
 - Avery Mack (Allen School PhD student)
- Start with questions that were submitted beforehand
 - **All** - Introductions
 - **Panelists introduce themselves with the information above**
 - Avery (they/them)
 - Final year PhD student
 - Accessible technology research focus
 - "Everything but the kitchen sink" ice cream flavor
 - Lane (he/him)
 - UW CSE grad (2018)
 - Staff SWE at Indeed.com
 - Chocolate gelato (that tastes a little weird)
 - Leilani (she/her)
 - Asst. prof in CSE
 - BS in CE from UW in 2011
 - Data Science / Data Viz research, specifically from a human-centered perspective
 - Frozen vinegar? → Sorbet :)
 - Nathan (he/him)
 - From started at UW from VA (6 year faculty there) – teaching professor here now
 - This quarter and next teaching CSE 332, 123 in Spring
 - Hard chunks but also soft squishy marshmallows – maybe rocky road?
 - **General**
 - Throughout the quarter we have been learning about bias and marginalization that can be facilitated through tech. How have you had autonomy of the impact of your work? How have each of you been able to incorporate your lived experience and knowledge into a work that may not explicitly call for it?

■ **What is something you wish you could tell yourself as an undergrad? What advice would you give them?**

- How did you find your niche/passion/what you wanted to do after college?
- What is your least favorite thing about your job? (Not to sound negative, but I feel that this question gives a lot of insight into downsides of careers, and how people still stick with careers despite downsides because usually the upsides outweigh them)

■ **What is your biggest/controversial/unique piece of advice for students in our position?**

- **Lane:** Drink water. Have friends.
 - **Avery:** Your grades don't matter that much, don't break yourself to get the A. Be a full human, even in undergrad. Go have interests, things, hobbies, interests outside of work.
 - **Leilani:** Passion is non-linear, and is kind of an illusion. You don't find a passion and then follow it – sometimes they codevelop. Passions can also evolve.
 - **Nathan:** Nothing in terms of career advice, kind of fell into everything. Whenever faced with a crossroads, kind of just picked whatever seemed most fun or just stuck with the status quo. Keep in mind that every person you interact with has a story and life and background, try to be the best person you can be when interacting with anybody. "dignity is not something you can give to somebody, it's something someone intrinsically has and you can only affirm."
- Is there anything that the American people can actually do or are we just doomed to a cyberpunk dystopia where corporations rule the world?
- How do you see emerging technologies, such as artificial intelligence and blockchain, shaping the future of computer science, and what skills do you think will be most valuable for students to develop in order to thrive in this evolving landscape?
- **This question is for everyone: How did you end up on the path of Computer Science? Was it a natural calling or did you find it by surprise? Also what is the best project you feel you have been apart of, doesn't have to be comp sci related. Thank you! What does an average day at your job look like?**
- **Nathan:** getting woken up by dog, then bus to campus, once on campus either start right away making sure ready to lecture or just answer lots and lots of emails; look at or write various assignments that might be coming up; give

lecture (if have one that day); meet with students (office hours, various discussions) and then make adjustments based off of those interactions; more emails; work on "scholarship" with remaining time (e.g., research directions, ways to improve/modernize various courses, etc.)

- **Leilani:** live in Bremerton so don't come to campus everyday; ferry + link to work, wrap up prep for lecture, co-writing session with a colleague because academia and there's lots to write; student meetings (PhD advisees, staff meetings, commute home...try not to work anymore after leaving campus.
 - **Lane:** read over emails and slack messages (what happened in Tokyo the night before), "work mode" from home meaning standing desk is up, 3-4 hours of meetings everyday (this is what happens when you move up levels) within team, cross-team, etc.; team owns all of the pipeline / release chain for code going out (internal tools), but means that many of the other teams are dependent on their team; at end of day maybe 2h after emails are dealt with where can work on code or other projects
 - **Avery:** PhD student at UW, so spending a lot of time doing research; reading literature to better understand new problem to solve, come up with research questions, running studies with participants, maintaining community connections, write lots of papers (takes up a lot of time), dr's appointments sometimes...limit to 8h per day
- What is your opinion on the animation AI Pika? (<https://pika.art>)
 - How do you handle project deadlines and prioritize certain tasks?
 - What's a time that you felt like you failed or underperformed at something, and what steps did you take to improve based on your past experiences?
 - **Have you had to consider any ethical guidelines in your work, and how have you made decisions/oriented your thinking about that?**
 - **Avery:** Working actively with groups that are often marginalized with society, and AI and models can just automate and enhance this inequality. Asking "what am I trying to build something that the community actually needs?" For example, sign language gloves – widely-hated by the Deaf community. They don't work, they're clunky,

ASL is not isolated to the hands, it's one-sided communication

- **Lane:** working on a morally-neutral area that is morally good-to-positive...? Indeed is a private company and owned by a private-equity firm but internally is pretty firm in "trying to help people get jobs." Indeed is very protective with how it uses users' data and strongly feels does not want to monetize job seekers. Not something I super duper cared about after graduation, but happy now don't have to be too concerned about the morality of the company I'm at. Building a lot of tools – need to be aware of accessibility of tools and make sure that tools are updated frequently to make sure they are serving users best. Regarding AI, not something that's super caught interest – probably important in the long term, but not something that need to deal with day-to-day.
- **Leilani:** Yes we were doomed from the beginning, and AI hasn't really changed that for me. We just keep finding new and creative ways to marginalize and exploit people, and AI is just a new chapter in that book. Trying to consider how people have systemically been marginalized and how to avoid this. If models and AI and * have caused all these problems, seems doubtful that these tools would also be used to solve the problems? Who is creating the models and algorithms? What are we doing as people to feed into this system to enable this harm? Led to some collaboration with other departments (psychology) on campus to help people practice more responsible data science – psychological interventions within data science. Co-founded a workshop for data visualization for social good (not purely novelty of research focused)
- **Nathan:** Computing ethics on the curricular level, what should be taught in the classroom and how integrated should these thought practices be. Day-to-day, I am in a position of authority, am making decisions that affect hundreds of people at a time, and the effects of these decisions impact students (in many cases) who are just starting out in a field or area. Want to be aware and cognizant of how my lectures and decisions affect folks in the room who are maybe searching for a place that they belong or not, if they can see a future in this area or not, etc. "Cascade effects"

- How do you / are you able to manage balancing your home and work life, as well as your mental health?
- How should algorithms/ai make decisions in ethically challenging situations, and who should be held accountable when those decisions result in consequences?
- What have been some favorite moments up to this point in your career?
- **What is the most unexpected thing you've learned while working at your respective companies? (I'd like each panelist to answer)**
- I have to start with I am honored to be here, listen to you and ask you questions. I wanted to raise a question regarding the ai arms race, how can the pursuit of AI certifications coexist with the profit-driven motives of tech companies, especially when recent events like OpenAI's CEO dismissal and subsequent rehiring reveal tensions between non-profit ideals and for-profit board pressures?
- **Leilani**
 - **Prof. Battle - how/why did you pick computer engineering for your Bachelors, and CS for masters and PhD?**
 - Leilani - What does the UW Interactive Data Lab and what do they focus on? How can an undergrad student get involved?
 - For Prof Battle: How did you get involved in human-computer interaction research? What part of the field particularly excites/inspires you?
- **Lane & Sev (SWE)**
 - These questions are mainly for lane and sev. I know this is a tangent from what we have been discussing thus far in this quarter, but can you talk about your experiences as a software engineers?
 - Also, can you touch on the job security aspect of being a software engineer?
 - Do you think there will be as high as a demand/competitiveness in the future, or what do you think the software engineering roles will look like in the future?
 - What do you think software engineering will look like in the future/ how will it change?
 - **When working in industry how much freedom do you have to work on what you find interesting? A lot of new grad opportunities and internships don't seem to specify a specific project or thing you would be working. Do they consider what**

you want to work on? Do they tell you what you will work on before starting the job?

- Is it relatively easy for international freshmen to secure internships in the field of computer science?
- If students want to work in computer related jobs in large companies in the future, what kind of education is generally required, or what skills can help graduates better job search and integrate into the company's work process.
- **Lane**
 - Since you mentioned Home Automation in your bio, have you tried Home Assistant? What do you think of the new Thread standard versus established communication standards like Zigbee/Zwave/Wifi? I think it's all silly and we should be using 2.4ghz Wifi and MQTT for all IoT devices.
- **Research**
 - For anyone who has done research, have you seen it impact the world-at-large?
 - How do you find the projects or research that you want to do? There are so many options it can be overwhelming.
 - For those of you involved in HCI research, what future applications do you see in the field? What ethical concerns do you see with computer science research in the future?
 - What got you interested in your respective research ?
 - **What got you interested in research? What has been your biggest takeaway from research and how has your experience in industry been?**
 - **How did you first get involved in research? What advice would you have for undergrads that are interested in research but haven't found a research focus?**
- **Academia**
 - **What is the biggest difference about studying/conducting research/teaching in the CS department in UW compare to other universities you have been in?**
- **Accessibility (Sev & Avery)**
 - **For Sev Huffman and Avery Mack, do you think there'll a day where artificial generative AI can help people with disabilities to a point where it's as if they've never had the disability at all? What could be some cons to that if any?**
 - **I want to hear panelist Avery Mack elaborate her current on representation of people with disabilities in digital technologies and support people with fluctuating access needs like neurodiverse people and people with chronic or**

mental health conditions. I'm curious about her current work since it relates to WMD's topic on inclusive design and combatting the inequality big data has created.

Open Discussion

- Approaching a point of singularity – how do you feel about the timeline of that happening in AI? When will AI overtake?
 - **Nathan:** In high school, self-driving vehicles were like 3 years away....but here we are now. Every time we get closer to being finished with a technology like self-driving vehicles, we realize that the last stretch is harder than anyone actually realized. Looking backwards we can see how much progress the technology has made, but the last stretch may likely be way more complicated than we were expecting.
 - **Leilani:** Current models are designed pretty narrowly. As long as you can define the problem you want them to solve pretty well, and there's enough training data, then they will be able to beat humans. However, that's a lot of assumptions to have to line up in order for it to do one thing well. Imagine all of the steps and factors required for a simple task? How far away are we from being able to ask robots to do all of our tasks for us? I don't think we're particularly close. The question is also very tech-focused – I don't see the general world and population being super obsessed with AI. Imagine the billions of dollars that have been poured into self-driving cars – if we poured that money into our public transit system, we wouldn't have a problem to solve. By focusing AI into our future, we are narrowing our possible paths moving forward.
 - **Avery:** +1 Leilani.
 - **Lane:** AI being used at work, still gets tons of things wrong. Some very specific tasks of AI can be okay, but are still pretty often wrong.
- I have to start with I am honored to be here, listen to you and ask you questions. I wanted to raise a question regarding the ai arms race, how can the pursuit of AI certifications coexist with the profit-driven motives of tech companies, especially when recent events like OpenAI's CEO dismissal and subsequent rehiring reveal tensions between non-profit ideals and for-profit board pressures?
 - **Lane:** If your company is directly owned by public shareholders, it's different from if your company is owned by a private equity firm. It depends a lot on the individual company
 - **Leilani:** we don't live within a true capitalism in the US – it's carefully constructed and restricted. Tunnel vision on quarterly profits can mess

up a lot, no focus on benefitting the target group or creating a better tool. This is more of an economics question.

- All of you have different career paths - how did you all explore your passions and find your way to your current job?
 - **Nathan:** every step has been by accident. Both parents have M.S. in CS, and older brother has PhD in CS, so going to college knew that definitely did **not** want to study CS. Majored in math, had to take an intro programming course, ended up liking it and decided to double major. Decided wanted to study education to be a high school math teacher, but was encouraged to apply to at least one grad school CS program. Decided to do that and then maybe go to high school education, but then got the chance to teach through grad school and realized could do education within there.
 - **Leilani:** originally wanted to be a game designer and artist. UW was the only university applied to (effectively first-gen student), then planned on doing EE but was directly-admitted to CS so gave it a try and then never left. Did some SWE internships, didn't enjoy SWE, so looking for other options (knew enjoyed some research internships and enjoyed them); decided to go to grad school to buy some more time before figuring out what to do; when started mentoring undergrad students in research, things finally clicked and found what I wanted to do – determined to go for becoming faculty. At Maryland for a while for research interest, then ended up coming back to UW to come back to Seattle area.
 - **Lane:** When was young, enjoyed playing with lego, and got a toy combining lego and computers (?) and sparked interest in computers and technology. In high school, on the first robotics team on the programming team (and hated it), then shifted to electrical team. Wanting to be technical, but also taking steps back and trying to coordinate efforts between people – job now is a tech lead, not a manager, but architecting technical things and teams and helping people work together. UW didn't get direct admit to CS, but applied and figured it out. A few internships during undergrad, referral to interview at Indeed, got hired and then did Indeed University for the first year (like mini startup within the company to see the full development of an idea). To figure out which team, interviewed and tried out various different teams – chose current team starting with just tickets for easy fixes, then kept gaining seniority as other people shuffled around, and now eventually become team lead.
 - **Avery:** Was discouraged from doing CS in high school by teacher, so decided to pursue CS in college. Dropped out at one point because so sick and was working on diagnosing disability, but then through mentors was encouraged to look into accessibility within CS. Did some

SWE internships and hated them, but if I go to school I'll have more time to make the decision, and grad school and been a great place to find more interest, understanding of self, consider longer-term future, etc.