

Exchange Report

Computer science and engineering at University of Washington 2022 Aut - 2023 Spr
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Summary

I spent 9 months studying computer science and engineering at University of Washington (UW) in the bustling city that is Seattle. The university has a vibrant student culture yet the political and environmental climate is fairly similar to that of Sweden. For any fellow student with a yearning to explore education internationally, I enthusiastically endorse considering UW.

Before departure

My primary motivation for pursuing exchange studies was to immerse myself in a new culture beyond what a regular vacation could offer. Initially, I explored universities in Asian countries to experience a less westernized environment while retaining a technological edge. However, upon discovering unparalleled career opportunities and scholarly expertise in my field of computer science (CS) at the University of Washington, I chose it as my destination. However, before coming to UW, I had to go through the painstaking and unflatteringly expensive US VISA process. So my recommendation for any and all who wish to study in the US is to start this process as early as possible. Besides the VISA, UW also wanted proof of vaccination for some odd diseases so I had to dig up my health records ("Barn Hälsokort") and transcribe these. UW was fairly conformable regarding these documents and so this was a smooth process. For the exchange I also needed proof of English proficiency and so I opted to take a TOEFL test. This test was at a very basic level and I wouldn't worry about preparing for this test. On the topic of preparations, I also want to suggest the following: Save everything; Every receipt, every confirmation letter, all physical documents, really anything that you need for immigration, study, financial, etc purposes. I structured my documents in directories like seen in Figure 1. Preserving everything digitally also eternalizes all those crisp, but old fashioned, physical hand signatures; this also eases travel in and out of the US as I never forget any documents that a border agent might ask for (like a DS2019). Furthermore I want to mention EU regulation 910/2014, which improves communication with government agencies (eg CSN) within member states of the EU substantially¹.

Upon arrival

I arrived in Seattle on the evening of the 18th of September 2022, which was 10 days before studies started. I had signed up for a move in crew called "dawgs crew" which allowed me to move in 2 days earlier and I got to see some campus houses whilst helping others move in. Besides dawgs crew, I participated in UW's social introduction event called "dawg daze" where all manner of fun and activities were held in order to help students connect with others. My birthday was on the 29th so I took both of these opportunities to make first contact with people in US and speed dated some friends to invite for a little celebration. During my first quarter I got roped into Swing dance club and Huskies for reproductive freedom (H4RF @huskies4reprofreedom). For the second quarter I joined Husky Winter Sports (HWS @huskywintersports) and Brazilian Jiu-Jitsu. Of all the clubs I spent the most time with HWS and H4RF. Both clubs had great people whom I spent much of my free time with outside of studies.



Figure 3: Dinner at restaurant "Jai thai" after swing quarter dance.

University and studies

UW has -as I understand it, three different campuses, Seattle, Tacoma and Bothell. I went to the Seattle campus which is the main one of the three and it is a fairly large campus. Walking from one end of campus to the other takes about 10 minutes with a quick step. The campus also has an enormous gym with a climbing center, weight room, 4 basketball/indoor volleyball/badminton courts, and a swimming pool that was closed but I'm hoping they'll have open again soon. Outside the gym they have numerous tennis courts, football fields, 2 beach volleyball nets, golf driving ranges, a baseball field, an American football stadium, track and field track and close proximity to the water. I think it suffices to say that sports are allowed to occupy a lot of space and time at UW.

Financials

I sought full CSN and stipends from KTH's "allmänna studerandestiftelser", and tuition was covered as per the exchange agreement. Included with the tuition was some public transport and access to the university gym. Food, living and other expenses were not covered. In my mind, the living cost in Seattle was very expensive, mostly due to rent and food². The food culture in the US is very odd in that with anything you buy, you can expect the price you have to pay to be roughly 25% higher than what is shown due to tipping and taxes. Some more modern establishments have caught on an actually pay their workers livable wages such that tipping may be reserved as a gesture of gratitude for extraordinary service, however a vast majority are still stuck in the dark ages.

At UW, an organization known as Housing & Food Services (HFS) is responsible for housing and food on campus. Any person that chooses to stay at a HFS housing option will be coerced into getting a food account (pay a large sum up front) which entitles them to ~20% off of campus food options. I went with both HFS housing and a "level 3" food account, but promptly cancelled the food account after the first quarter as I had not used up all the money on campus food. This was because I preferred to eat breakfast at home and to occasionally have dinner off of campus. The pros and cons of HFS housing as opposed to housing with third parties as I see them are: + Resident Advisers (RAs) and the community, - Cost, - Less control of roommate assignment and location.

With that said, I'm glad I did the HFS housing option for the community and experience this form of living gave. I meet a couple of cool people I will keep hanging out with. I would however not have started the HFS food account if I could go back in time (only residents with a kitchen have the option not to pay this account (minimum level was ~900\$ if I remember correctly)) as there are dining options off campus that are more varied and less expensive (especially as a vegan/vegetarian as I quickly tire of the two or three vegan options offered across all of UW HFS's cafeterias. One of these, the "Field roast sandwich", when maxed out with toppings, comes in at a measly ~600 kcals and takes your wallet back about 10\$. Meanwhile, for a short 5 min walk off campus, one can enjoy a wide array of different cuisines, many of which Asian which often serve vegan/vegetarian options and oftentimes have meals packing ~1000-1200 kcals for 10-16\$ post tip and tax.



Figure 2: Ski trip with HWS. Over spring break I roadtripped with some HWS people as we visited 5 nearby ski resorts in Canada.

Courses

I choose courses that either directly transfer to my master's courses or are of great interest to me. The way I did this was by comparing course descriptions and workload and finding courses that matched as close as possible to the mandatory courses for my masters. When no such courses were available I went ahead and choose courses I found interesting. The mandatory courses, luckily, I imagine are very similar in content to the ones covered back at KTH. At least for my master, they cover topics that are in some sense classical in computer science. Take for example the distributed systems class, industry and academia largely rely on one algorithm called Paxos. This algorithm, in some basic sense is fundamental to developing and understanding of distributed systems and so different academic institutions will cover this topic similarly. All the courses I took had a CSE prefix before their course codes, left out below for simplicity.

Autumn quarter:

- 461 – Introduction commuter communication (4 credits),
- 473 – Introduction to artificial intelligence (3),
- 484 – Computer security (4),
- 519 – Current research in computer science (1),

Winter quarter:

- 446 – Machine learning (4),
- 447 – Natural language processing (4),
- 455 – Computer vision (4),

Spring quarter:

- 452 – Introduction to distributed systems (4),
- 493G1 – Deep learning (4),
- 599I – Explainable AI (4)

If I had the option to choose courses again I would've switched one course from autumn with one from spring because my autumn quarter's workload was the lightest and spring the heaviest. But I think this also depends a lot on the professor teaching the class and probably varies a lot. Of exceptional quality, I find that 455 and 599I were a cut above the rest, but again I largely want to attribute this to the professors, and sadly one of which is done with their research and leaving UW by next year.

Other recommendations and observations

My flight home was delayed, and as a result the airline paid for a night's stay at a nearby hotel with 3 meals included. Also by EU law³, because my flight was long and delayed more than 6 hours, I was entitled to 600€. The compensation was paid out about a month later.

I made an excel document with courses that I took at UW and my personal mappings of these to KTH courses (note, these course-to-course mappings are not definite, may change over time and are ultimately considered by KTH's programme responsible and crediting is done at their discretion). I also made a document with a packing list that I modified slightly after arriving to account for items I wish I had brought. Both of these documents can be found at: https://bergrahm.com/assets/pages/projects/uw22_23.html, also in references⁴.



Figure 6: Not my image, cred⁵. Mount Rainier behind Drumheller fountain on the beautiful campus.

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City and country

The university is located in Seattle in Washington. I really love Seattle for its location and how many different activities are available around the city. There is skiing about an hour away, fantastic hikes, both indoor and outdoor climbing, I've heard people even kite surf! I'm excited to go back and experience more of these activities because the 9 months exchange wasn't long enough for me to see nearly enough!

There is however of course some less attractive parts. For an alleged first world country, there is a comical lack of: vegetarian food or cheap unprocessed groceries – lindt chocolate was cheaper / kcal than canned kidney beans at my nearest grocery store; public transport outside the innermost city – in its defence, Seattle has a good subway link; city cars – people drive around solo in enormous, loud macho cars to compensate; absence of guns and gun control – a person can buy deadly weaponry legally before they can legally buy alcohol.

Washington is a relatively progressive state and pushes for positive change which is reflected in the numerous and enthusiastic clubs and student organizations present at UW. This engagement is appreciable and was what pulled me into H4RF.



Figure 5: various events with friends. From top left: A very memorable bike race, tabling with H4RF, studying in the quad with HWS, delivering matzahs with Garzon, climbing with Annie, cooking with friends, studying with Sid, studying with Kevin, studying with HWS.

Leisure and social activities

As I mentioned earlier I spent a lot of time with H4RF and HWS outside of studies. Having the mobility of a car enables a lot of fun outdoor activities in and around Seattle. A couple of members of HWS decided to do a roadtrip up to 5 different mountain resorts in Canda over spring break, see Figure 2. With H4RF we often played pool or trivia at local pubs, or we would simply hang out at some members place. Besides socializing with members of these clubs I attended house shows located on "greek row" (an area with large private houses rented out to groups of friends or sororities/fraternities) which showed local artists performing. Fraternity parties were definitely an experience, but had a totally different energy and oftentimes I vibed more with house shows or getting together with the student clubs.

References

1. <https://www.eidas.europa.eu/en/policies/eidas-regulation>, see also more user friendly: <https://digital-strategy.ec.europa.eu/en/policies/eidas-regulation>
2. https://www.numbeo.com/cost-of-living/compare_cities.jsp?country1=Sweden&country2=United+States&city1=Stockholm&city2=Seattle%2CWA&tracking=getDispatchComparison
3. https://europa.eu/youreurope/citizens/travel/passenger-rights/air/index_en.htm
4. https://bergrahm.com/assets/pages/projects/uw22_23.html
5. https://www.reddit.com/r/Seattle/comments/4d52sh/view_of_mount_rainier_from_uw_today/



Figure 1: Directory layout. Organizing documents saved me a lot of time and was immensely useful throughout exchange.



Figure 4: Secret santa celebrations with friends.