

**EXCHANGE REPORT****Name**

Taylor V'Dovec

Year and term for exchange

Fall 2022

Exchange university

NTNU

Degree programme

Systems, Control, and Robotics

Semester studying robotics at NTNU

Before departure

I am an American citizen and so being a student at KTH is already an experience abroad for me. However, when I heard about the Erasmus program and how great of a community there is for European students to visit other countries I knew I wanted to be a part of that as well. I chose NTNU because I really loved Sweden and wanted to see other parts of Scandinavia. Also, NTNU has a very good robotics department with several classes that I was interested in taking. There was very little in terms of preparation other than paperwork and the visa application, as the teaching language at NTNU is English for my degree and as a US citizen the visa was not too difficult to obtain.

Upon arrival

It was a rough initial transition for me because I had an internship in San Francisco that finished the Friday before the first week of class, so I was not able to attend any of the introduction events and arrived in Norway on the first day of classes. Fortunately, I was able to connect with my classmates quickly as there were a few other exchange students in my course who could help me transition. I personally have really enjoyed the athletic community on campus. There is a large athletic union that many students get involved in and NTNU has excellent workout facilities that I have made friends while using.

Financials

I was fortunate to receive the Erasmus+ grant to attend NTNU. This was crucial, because Norway is definitely a bit more expensive than Sweden (which is also not cheap!). One thing that took me by surprise was the large visa application fee of about \$600USD. There was not this requirement for my Swedish visa application so I was not prepared for that expense. Otherwise, I have only paid for a 6 month bus pass and gym fee as expenses related to NTNU, both of which were large upfront expenses but have saved me a lot of money over time.

One rather obvious piece of advice is to always pack your own lunch for class and eat out as little as possible. Both KTH and NTNU have sandwich shops on campus that are affordable relative to restaurants off-campus, but even those "affordable" lunches add up over time. I have tried several new recipes during my time here and have learned to like the process of cooking and baking, making cooking at home not only a responsible choice but an enjoyable one

Accommodation

I found private housing on the Norwegian equivalent of Blocket. There were more housing options than I was expecting and I found the process to be relatively easy compared to finding private housing in Stockholm. Although I did not utilize the option of student housing, as an exchange student I believe would have been given priority. I found the private option to be a bit cheaper, and I live close to campus in a quiet neighborhood.

University and studies

NTNU is comparable in size to KTH and has a large EECS/Robotics department. It also operates on the semester schedule as opposed to the quarter system that KTH uses, which I greatly preferred. I sometimes felt rushed by the pace of KTH's courses and found that taking longer courses at NTNU greatly reduced both my stress levels and ability to retain what I learned. All of my courses were in English, although most of the students in my courses were from Norway and the "social language" on campus was Norwegian.

Courses

Advanced Software Design- I chose this course because I wanted to learn more about how to structure and deploy large programming projects. Most of the projects in this class were enjoyable and felt practical. We got to create custom backends of our own websites (I made a simple version of Google Maps).

Aerial Robotic Autonomy/Visual SLAM- This was a two part course. The drone half of the course was more focused on coding different algorithms related to autonomy while the visual SLAM half was more research based and we read and presented different technical papers. I liked the balance in learning that this provided and found this course to be very useful for what I want to do in my future career.

Embedded and Industrial System Design- This was my favorite course from my time at NTNU. It took place almost entirely in an electronics lab. Myself and two partners made an embedded system that used a joystick and several mechanical components to play a version of ping-pong. I loved being able to work with hardware while expanding my skill set in embedded software development as well.

Machine Learning for Signal Processing- Although I already had some experience in both signal processing and machine learning, this class was a very practical combination of the two. We learned how to process speech using neural networks and I enjoyed the projects in this course.

City and country

Coming from a year in Sweden, there was not really any culture shock I experienced moving to Norway. Trondheim is a much smaller city than Stockholm which was probably the largest adjustment I had to make. It is much quieter here and less activities in the city, but there is so much nature and other students around that it is a wonderful place to go to school. The nature in Norway in general is maybe the best I have ever seen.

Leisure and social activities

I was very busy with academic work so I had less free time than I expected, but I mostly participated in athletic activities in my spare time. There is a very robust sports community at NTNU which I enjoyed. I also spent many weekends in the city of Trondheim visiting different cafes and coffee shops.

Sustainability

Unfortunately I was not able to avoid taking a long distance flight to get from the US to Norway. However, while at NTNU I commute using the city bus, my bike, or by walking. Also, all new clothes I have needed I have been able to find at local secondhand stores in Trondheim. In addition, NTNU gives discounts on coffee if you bring your own thermos so I take advantage of that option, and I have noticed an emphasis on recycling and reusing on campus.

Other recommendations and observations