

1. Personal Data

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2. Executive Summary

This report is about my time in Sapporo, Japan from February to September. A research student will mostly live a 'life in the lab', which can be very comfortable and is also a part of your social life. Outside the lab I spent most of my time with other exchange students, who became good friends.

I experienced the many small (but also the big) differences between the Dutch and Japanese culture and I think that I personally learned a lot from that.

Looking back it is difficult to point out what exactly made my stay in Japan as special as I experienced it, but I would certainly recommend other students to just go for it and experience it for themselves.

3. Travel Schedule

Feb 3 Amsterdam – Hong Kong

Feb 8 Hong Kong – Tokyo

Feb 15 Tokyo – Sapporo

26-29 april Rishiri Island

May 26 Sapporo – Tokyo (Conference Waseda)

May 28 Tokyo – Sapporo

Sep 8 Sapporo – Hong Kong

Sep 8 Hong Kong – Amsterdam

4. Technical Research Report

The research I participated in was about developing a control method for a robot manipulator used as a human assist device. The manipulator has to support a human in various strenuous tasks.

This research project at my university was still in an early stage of development, there had been only one student before me in this project. He developed a test device (fig. 1) and I focused on the development of the control scheme.

I first did a brief literature survey and in cooperation with my professor decided to design a neural network controller and simulate it using Matlab[®].

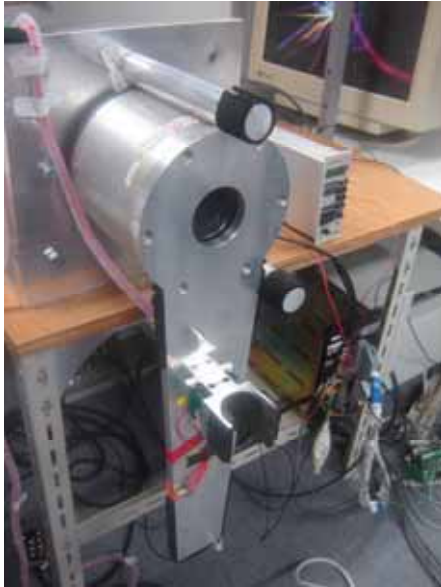


Figure 1: Test device for control scheme

The neural network controller was based on a position controller which used an environment model to compensate the environmental forces. And a neural network was used to estimate (and adapt to) the environment. After a successful simulation using one type of environment we decided to broaden the application of the simulation to make it work for multiple environments. And these results were summarized in the paper I submitted together with this report.

5. Exchange student life

In this section I will describe my experience of the exchange student life at Hokkaido University. These observations are limited to Sapporo and might be different in other cities or at other universities.

Laboratory

As a research student in Japan, the most of your time is spent in the laboratory (kenkyushitsu). And the laboratory I did my research was certainly equipped to spend a lot of time in. It had refrigerators, a (microwave) oven, a small kitchen, couches, a coffee machine and more, even a bunk bed. Once a lab member told me he regretted that there was no shower available, because for him that was the only reason to go home from time to time. I think this is a good example of how nice and comfortable 'lab-life' can be. My professor told me, that that is the way they want to stimulate the students to deliver high quality research.

Also outside the laboratory the people spent a lot of time with each other (hanami, nomikai, bbq's, welcome parties and farewell parties).

In the laboratory I had two good friends, Li Yuan (a Chinese girl who had studied in England) and Taichi (who lived in Germany for five years). I cherish the discussions I had with Li and the English/German/Japanese conversations with Taichi.

Daily life

Although the Japanese culture is very different from the Dutch, at first it was very easy to adjust to Japanese life, mostly because Japanese people everywhere are very friendly and willing to help. And at first I only noticed the obvious differences between cultures. But after a while I discovered that the real difference between cultures is in the little things and it was very interesting to constantly discover new differences.

Japanese course

As an exchange student from Demamech, several Japanese courses are available to you; writing, reading, oral communication, grammar and kanji's. Because I couldn't spend all my time learning Japanese I decided to take the grammar and oral communication course. And as opposed to stories I heard from Demamach students at other universities, even the introductory level was pretty intensive. This meant every morning (not once a week) classes and homework every day. This could be a bore sometimes, but I'm very glad I did it, because it was very valuable for me to be able to make some 'small-talk' with Japanese people from time to time, to talk about the weather, the World championship soccer, last nights baseball game or (off course) Dragonball Z. And most Japanese people appreciate it when you at least start the conversation in Japanese and sometimes already compliment you for speaking two or three words in Japanese ("Nihongo jouzu desu!")

Other exchange students

The Japanese courses were giving at the international student center (ISC) and it was also a good place to meet other exchange students from all over the world. A lot of these students were taking the intensive Japanese course and were already in Japan for six months before I came, so they could really help me find my way. Although your part of the laboratory, I experienced that most students (and also most other Japanese people) keep a certain distance,

so the time I was not in the laboratory I spent mostly with the other exchange students, who became good friends.

Food

Japan might be an expensive country, but going out for dinner is not. There are small restaurants almost every where and you can get a complete meal there for as cheap as 600 yen (about €4,20). A little bit more expensive, but very much worth it, were the (kaiten-)sushi places. We had a favorite one in Susukino, where we went about once a week.

Sapporo

Sapporo had a lot of festivals, so there was almost always something to do in town and always a lot of people participated in the events. Particularly I was very impressed by the dance festival. People started practicing months before and when the festival was there, all the streets were covered by dancing (and singing) people, very amusing.

Trips

During my stay in Japan I went on many small trips. The island of Hokkaido has beautiful nature and several national parks. I went to shikotsu-toya national park, Otaru, Niseko, wakanai, Rishiri island and twice to Tokyo.

6. Summary

During my stay in Japan I had the privilege to work on an interesting and challenging research project, fully experience life in the laboratory and Japanese life and slowly discover Japanese culture. And I'm sure that even after more than seven months there is still really a lot to discover left.

Learning the Japanese language (a little bit) helped me to understand daily life and Japanese culture better and quicker and it was very interesting to (try to) talk in a language so much different than your own.

Personally my stay in Japan was an experience I will cherish for the rest of my life and I would like thank prof. Tomiyama for that and also my supervisors at the Hokkaido University, associate prof. Takayuki Tanaka and prof. Shun'ichi Kaneko and all the people from the laboratory (my time in the lab, my farewell party and the running alongside my train at departure while saying goodbye was unforgettable).