## ヒューマンウェアインターンシップ報告書

## インターンシップ体験記 (海外インターンシップの場合は英語で記入)

(Preparations) As preparation for the internship, I researched the papers written by the professor and other papers relating to them while having searched accommodation. There were few problems about researching because I was used to it. Nevertheless, searching reasonable accommodation was not so easy. I started searching accommodation six months before the internship and it took four months to decide the place. At first, I asked the professor and searched internet and homepage of the university to get information as much as I could. Information collected from internet and homepage was a bit useful but it did not lead to finding good accommodation. I kept searching accommodation, getting advices from researchers in Japan who have been working with the professor and have been to Ottawa. Finally, considering these advices, I chose the accommodation from Airbnb because it had low accommodation fee and was shared with other residents, which looked good to give me more opportunities to use English.

Preparing clothes and shoes was also important since the internship was winter and temperature in winter in Ottawa is much colder than that in Japan. It took too much cost and was not supported by program but was necessary to resist significant coldness in Ottawa.

(Purposes and learnings for study) During the internship, I worked on two themes about the exploration which aiming to visit all the nodes in a network by mobile agents (it is a concept similar to computer viruses) or by a swarm of robots. One of my purposes of the internship was to start the study of a swarm of robots and it was well achieved. In addition to that, thanks to great advices of the professor, there was much progress in the study of mobile agents.

Improving my English and communication skill was another purpose of the internship. Through the meeting and discussion with the professor and students, the talk with other residents in the accommodation, and the life surrounded English, the goal was apparently achieved.

There were some different ways to work on a study in the laboratory. For example, meeting was held closely and individually, they used shared folder such as Dropbox, and writing process of a paper started as a research started. Especially, individual meeting was surprising for me because she had tight schedule and much work to do and it is common to have meeting with a group in my laboratory. All of them are important to advance a research quickly and parts of them have been already adopted to my research process in Japan.

(Learnings from communication with the supervisor) The professor had good personality and I was able to spend a comfortable time. It seemed to be one reason why I successfully made progress on research. Specifically, she was not only a good advisor also a good listener and was paying attention to how motivated I was. That attitude was also seen in laboratory seminars where the professor and students casually exchanged their opinion. Combined with the English culture where relationships of people are flatter, I was able to think and make comments more relaxedly than in Japan. Of course, it is important to be able to act in that manner to anyone and anywhere and I will try to do so also in Japan, balancing with Japanese culture. On the other hand, as a future manager or a future leader of a team, I could learn a manner to make comfortable atmosphere for team members and properly motivate team members.

(Growths through the internship) Working on two distinct themes concurrently in the restricted time made my ability of time management improved. Since it was for the first time to work on two themes as the first author, I had difficulty managing time at first. To make progress in both themes, I analyzed what task took time and was reducible. Although it appeared that basically, with a bit much time for thinking, I had already used time as efficient as possible, the thinking time was the most possible choice to be reduced and I shortened the time. Then, thanks to that, I realized that I had been thinking too long and

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half of the time had been consumed without no progress. As a result, the time efficiency was increased and, for both the themes, great progress was made.

I also learned the importance of selling a paper, that is, the importance of the introduction in a paper. I had thought that the most important part of a paper was its result and had written the introduction not as a selling part but as just explanation of background. The professor made me aware of that editors might not be familiar with my field and they could miss the importance of results if I failed to explain that. I can now see the importance of selling and am striving to write the introduction as a selling part not as just explanation of background.

(Learnings from works on the different field) Working on a new field was not hard as far as a specific problem was given since I started to research about the theme about half a year before the internship. Although there was much difference between solutions to the new theme and my own theme, it seemed that the process of solving a problem was basically the same. Nevertheless, I had little knowledge to get the whole picture of a field or which part of the picture the new theme was in. In the internship, without the professor's great help, I was not able to get the new theme and make progress on that. The next goal is to comprehend the whole picture and get a new theme by myself.

(Daily life) The accommodation where I stayed was good because its fee was low, it located less than 10 minutes from the university on foot, it was sanitary, there was good privacy, and there were other residents. Though I had concerns about living with strangers before arriving, most of the residents actually were friendly and we often went to downtown together. I was able to practice speaking English by talking with them almost every day. The host of the accommodation was also good people and solved problems caused by the difference of how to use shared space. Thanks to that, I had spent a pleasant time there.

The food in Ottawa was as good and reasonable as that in Osaka as long as cooking by myself. Eating out including cafeteria was good for food but a little expensive. There was no problem but when I ate out at a vegetarian restaurant. The restaurant had delicious food but it seemed that my digestive organ had not been used to that kind of food, which led me to sick and vomiting. I will take care to eat carefully next time when eating such food.

The price at a supermarket or grocery store was reasonable. For food, including that at cafeteria, and commodities, I spent about five hundred Canadian dollars per month.

The most noteworthy part of Ottawa, of course, was its coldness. Its average temperature was around minus ten Celsius degrees and the apparent temperature went down to minus thirty Celsius degrees in a cold day. The coldness caused problems such as heavy snow storms, ice bites, and slippery roads, whereas it created fantastic views which were astonishing me. Especially, a frozen lake and canal were impressive. Ice on them was very thick that people could skate on them. I had been heartily looking forward skating there and really enjoyed that. As another interesting point, I would like to mention about the resistance to coldness of inhabitants in Ottawa. They were used to the coldness and put on only T-shirts when it was around O Celsius degree, from which I could see the strong adaptability of human beings.

(Others) It is the most important achievement through the internship that I have changed how to use time. At first, with the limited time of internship, I changed my life-style not to waste time and then, realized that the time is limited not only in Ottawa but also in Japan. In addition to that, without disturbance by surroundings, I was able to have time to think of what I want to be or do and realized that, if I use time for myself, I can reach my goal. Through these thought and struggling, I could change how to use time.