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I am Pak-Hay Chan, a Year-2 student from Department of Computer Science in CUHK. In the last semester, I received Tsinghua-CUHK Undergraduate Exchange Scholarship 2014 and got a precious opportunity to be an exchange student in Institute for Interdisciplinary Information Sciences (IIIS) in Tsinghua University. In the following I am going to share my experience in Tsinghua. But before that, I would like to express my sincere gratitude and thankfulness to Tsinghua-MIT-CUHK Research Center for Theoretical Computer Science, Professor Charles K. Kao Research Exchange Scholarship and Department of Computer Science and Engineering for providing such a valuable opportunities and scholarship. It was a wonder experience to me and the scholarship really provides huge support to my education and living expense.

Tsinghua University, which has more than a hundred years of history, is one of the most famous universities in China. Besides renowned of engineering, Tsinghua is also one of the most beautiful campuses in China. In this semester, I took four major courses which are Cryptography, Network Science, Information Theory and Coding Theory and Game Theory, and one physical education course of learning wushu.

Standing on the frozen lake in THU!  
Beautiful view in the campus
All four courses are quite in theoretical flavor and this may be my first time to be formally exposed to a large world of theoretical computer science. I was keep being inspired in all of the lectures and I tasted the beauty in the tip of the iceberg of computer science. I am amazed how useful Mechanism Design in daily life in Game Theory; the step by step theoretical constructions from One-Way Functions to arbitrary length of Pseudo Random Functions in Cryptography. Network Science and Information Theory provide a new view for me to look at the real world, the former models the real networks into mathematical network model and find out interesting facts and phenomenon; the latter provides tools and measures to handle information efficiently and give limits and bounds on that.

Although the content of the course is so interesting, the assignments are usually hard problems and require rigorous proof which I am not familiar with. It is really tough for me every time I got the new problem set! But thanks to the friendly classmates, we usually discuss the assignment (they taught me patiently) and share some key ideas when I really got stuck. It really feels good when you come up with a solution of a hard problem that you thought you are not going to solve it at first sight! Other than the tough written assignment, I also worked on a small project in Information Theory course on Grammar-based Code (GBC) at the end of the semester. Prof. Yang gave me a lot of guidance on the project and suggested some useful materials for me to study. Although my work are mainly summarizing the idea and results of recent papers of GBC, and try to do some small proof on some small statements, it gives me a first-hand experience on researching a totally new topic on my own. I really enjoyed a lot in the process from knowing nothing about the topic that I am interested to getting some clear understanding to the topic!

Besides being inspired in different fields, I was deeply impressed by the talent, diligence and learning attitude of my classmates. Just next to my room there is a world champion in international programming contest! Also it is not hard to see students in THU study until very late in dormitory or library with their own lights
even the lights and power in dormitory are off at 11pm. My classmates are also active in class. They would ask questions frequently and discuss the content with other classmates. The learning atmosphere is quite nice and I enjoyed studying in the class.

The wushu class is also very interesting. As a Chinese, this is my first time to learn traditional Chinese wushu. I am so glad that at the end of the semester I can demonstrate some basic skills of sword! One thing to mention is that our teacher was a world champion in World Wushu Competition!

Other than studying, I went travelling during the semester too. Besides going to famous tourist spots like The Great Wall and The Palace Museum, I also went to the Summer Palace, the China Art Museum, Wu Dao Kou etc, just name a few. Besides beautiful structures and views, visiting some historical sites gave me more understanding to my own country. I also went to other province nearby for travelling too. In Tsing Ming holiday, THU held a tour to ShanDong for exchanges students from Hong Kong and Taiwan. We climbed up the magnificent Mountain Tai and visited the quaint homeland of Confucius! It was so fun to travel with a lot of new friends.

![Near the top of Mountain Tai!](image)

Valuable friendships are also one of my gains during this semester. I made so
many new friends in my department also with other exchange students. We entertained in our leisure times, we shared our stories, we talked about our countries or province, we discussed on politics, we knew more about the view points or culture of each other. It is so precious that I enjoyed those fun times with them and each of them brought me new perspectives and widened my horizon.

My roommates (also classmates)

In all, this fruitful exchange experience really means a lot to me. I would like to thanks all the departments involved again to give me such a valuable opportunities and financial support of having exchange in Tsinghua.