

京都大学若手人材海外派遣事業 スーパージョン万プログラム  
研究者派遣プログラム

英文報告書

提出日：平成28年4月14日

1. 渡航者（日本語）			
氏 名	丸田 一郎	採択年度	平成 27 年度
部 局	大学院 情報学研究科	電 話	
職 名	助教	メー ル	
研究課題名	大規模データに基づく動的システムの同定および制御		
海外渡航期間	平成 27 年 9 月 8 日～ 平成 28 年 3 月 8 日		
渡航先 (英語表記)	国名：アメリカ合衆国 大学等研究機関名：ノースイースタン大学 研究室名等：Robust Systems Laboratory 受入研究者名：Mario Sznaier 教授		
2. 渡航の報告（英文）			
渡航先の研究環境、研究者との交流、研究発表の状況等、渡航中の滞在経験について英語(500～1000語)で記述して下さい。受入研究者と撮影した写真や研究発表で用いた図等について、可能な範囲で別添として提出して下さい。ページ数については増加してもかまいません。			
<p>My project supported by John Mung Young Scholars Overseas Visit Program is entitled with “Identification and Control of Dynamic Systems Based on Big Data”, and Robust Systems Laboratory in Northeastern University is the laboratory I stayed during my program. A unique feature of the laboratory is that it has two professors specialized in control theory and computer vision. Although my profession is control theory, computer vision is the area where the utilization of big data is more common than in my area, and learning ideas and techniques from computer vision area is insightful for carrying out my project. Indeed, subspace clustering methods, which we mainly studied in the project, are applicable both for a motion segmentation problem in computer vision and a piecewise affine system identification problem in control theory. And, in computer vision area, there are techniques for handling high dimensional and large data, which are also useful in control engineering. Thus, the interaction with computer vision people is very meaningful experience for me.</p> <p>The best thing during my program is that I had been able to discuss with Professor Mario Sznaier, who is my host researcher at Northeastern University, almost every day. He gave me large amount of his precious time, and we could discuss many exciting ideas. He is so kind to invite me to Thanksgiving dinner at his home, and I really enjoyed my stay at Boston thanks to him and his family. In my program, we are mostly interested in the identification of switched systems based on submodular optimization technique, and now planning to write paper about the study.</p> <p>The environment of Northeastern University is really nice. The alumni of the university include the founder of Boston Dynamics, which is one of the most exciting company for engineers, and the students seem to be diligent</p>			

and like a challenge. The campus is located in the central part of Boston, which is the most academic city in the world, and there are plenty of chances to participate formal and casual talks given by scholars from all around the world. Since the city has a number of famous research institutes, there are many meet-up for researchers in Boston. Among them, I attended meet-up of computer vision people and experienced the advantage to be in major hub of research.

During the stay, I had been able to look closely at how students learn at university in the United States. The students tend to be more aggressive in learning than in Kyoto University, and I enjoyed to answer to and discuss about their questions. Also, I had several chances to attend the dissertations and chances to see student projects in the laboratory. To summarize my impression, the system is well designed to keep earnest students from being bored.

What I had not expected before my visit is the interaction with excellent students in the laboratory. They are young earnest researcher, and the discussion with them always reminds me fresh viewpoint and renewed my understanding. Friendship with them is the largest unexpected harvest from my program and it will become more precious in future as they become established researchers.

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