

Global COE Program
World Center of Education and Research for Inter-disciplinary Flow Dynamics
2010 Internship Program for Students of Tohoku University Experience Note

Name: Chuantao Zang

Affiliation: Graduate School of Information Sciences, Tohoku University

Supervisor: Prof. Koichi Hashimoto

Internship Period: Jan 10, 2011~ Feb 24, 2011 (46 days)

Internship Institute: INRIA Rennes-Bretagne Atlantique, France

Internship Supervisor: Prof. Francois Chaumette

Internship Topic: 3D CAD model based visual tracking and servoing

With the great support from the International Internship Program for doctoral students of GCOE “World Center of Education and Research for Inter-disciplinary Flow Dynamics”, I have been to INRIA Rennes (France) to do a 46 days internship.

As a branch of INRIA (National Research Institute of Information and Automatic), INRIA Rennes is composed of 31 project teams. And my internship supervisor Prof. Francois Chaumette is the leader of the team “Lagadic”. And Lagadic is also the only one team concentrating on robotics and vision in INRIA Rennes. Prof. Francois and his colleague Prof. Eric Chaumette are well known for their excellent research in visual servo and computer vision, especially for 3D object tracking and servoing. Their team has published many high level papers for top journals and conferences. As my PhD research top is also on the 3D object tracking and servoing in a robot system, I decide to go to Lagadic team to learn more about this field.

During my internship period, I went to their lab every day. They assigned me a new experiment PC with Linux system because I need to run their software platform “ViSP”. It is open-source software which integrates not only the common methods in computer vision and visual servoing, but also their own latest research results. With the help of ViSP, I have got familiar with their work quickly.

By reading the relative papers and discussing with Francois, Eric, and other PhD students, I have mastered their 3D CAD model based tracking and servoing technique. I had understood their methods in detail and made several demos in my experiment PC.

From this internship, I have strengthened my theoretic knowledge background greatly. My

supervisor Prof. Koichi Hashimoto has discussed with me before about the 3D CAD model tracking, but limited by my knowledge background at that time, I could not understand it well. Thanks to my more knowledge obtained in INRIA Rennes, now I can totally understand my supervisor's idea clearly. And also sparked by their work, currently I have got a new idea to improve their techniques. I want to realize this in our own robot system as my further PhD research. That will be more valuable for this research field.

Besides, I also kept a good relationship with all the Lagadic members. It is a great time for me to live in Rennes with some many kind friends. And Prof. Mikiko Nagajima has visited Rennes for the student exchanging program. I went to the station to pick up Prof Nagajima and we had lunch together that day. Prof Nakajima has taught me in her Japanese class. So it was really great to meet my teacher outside Japan.

In all, this internship is a valuable experience for my PhD study. I sincerely appreciate the great support of the GCOE program. Thanks a lot for the support of my supervisor Prof. Koichi Hashimoto, Associate Prof. Jun Ishimoto and Prof. Wada. And special thanks to Ms. Yuko Sasaki for helping me a lot in preparing all the materials.



Photo with Lagadic members



Everyday I had lunch with all Lagadic team members in the school restaurant.