

# EU-Canada-Romania Student Mobility Program Personal Experience

## By Egon Fernandes (Simon Fraser University)

My trip to Europe began on Jan. 15<sup>th</sup> as I flew from Vancouver Canada to Budapest Hungary, where I stayed for 3 nights and took in the sights. I arrived in Targu Mures Romania on Jan 19<sup>th</sup> and was excited to begin my Romanian experience. After checking into my housing shared with 4 other very nice people, I went to the university the next day. At Sapientia Hungarian University of Transylvania (SHUT) I was greeted by Dr. Lorinc Marton, who gave me an informative tour of the university. This began my next four months of my student exchange experience working on the Mobile Robot Hockey System.

### Targu Mureş



Living in Targu Mures (Marosvásárhely in Hungarian) was a huge change from Vancouver. Targu Mures is a much smaller city with not many foreigners. Fortunately, I was living with four other Canadians with whom I shared the hardships of communicating and functioning in Romanian society. Commuting from our housing to the university was fine as we had rented a car, but immediately we noticed the Romanians had an aggressive driving style.

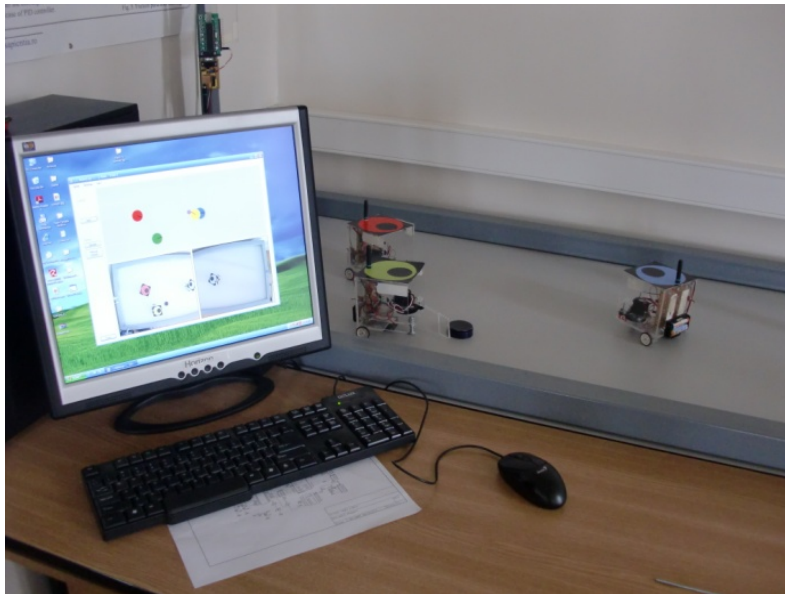
In the past, Targu Mures and Transylvania was a part of the Hungarian Empire. This portion was given to Romania after defeat in the First World War. Many Hungarians moved to Hungary but some stayed leaving the population of Targu Mures to be roughly 50% Hungarian and 50% Romanian. Because of this fact, many people there speak both Hungarian and Romanian. Not as many people spoke English, however.

### Academic Experience

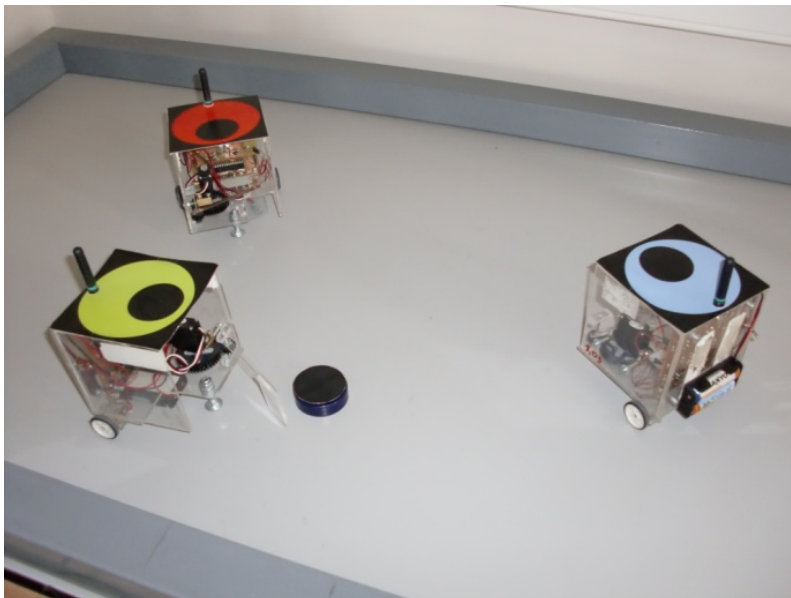
At Sapientia Hungarian University of Transylvania we worked on a multi-agent robotic system consisting of four small robots that ultimately were supposed to play a simple game of hockey. The premise of the task may seem simple but with the sophistication of the system the task was found to be quite challenging and interesting. The four of us



worked independently for the most part but towards the same goal. I was given the role of coding the game management for the hockey system. This would allow the robots to know that they are playing a game of hockey and to follow the appropriate rules. It also involved interfacing several components of the system, such as the camera, communication, low-level motor control, and game management. Coding for the project was done in C# (C Sharp) with Microsoft Visual Studios. At first I found this task quite challenging because my previous experience in computer programming was only an introductory course in C++ but I found this project a great educational experience.



**Running Tests on Robot Agents**



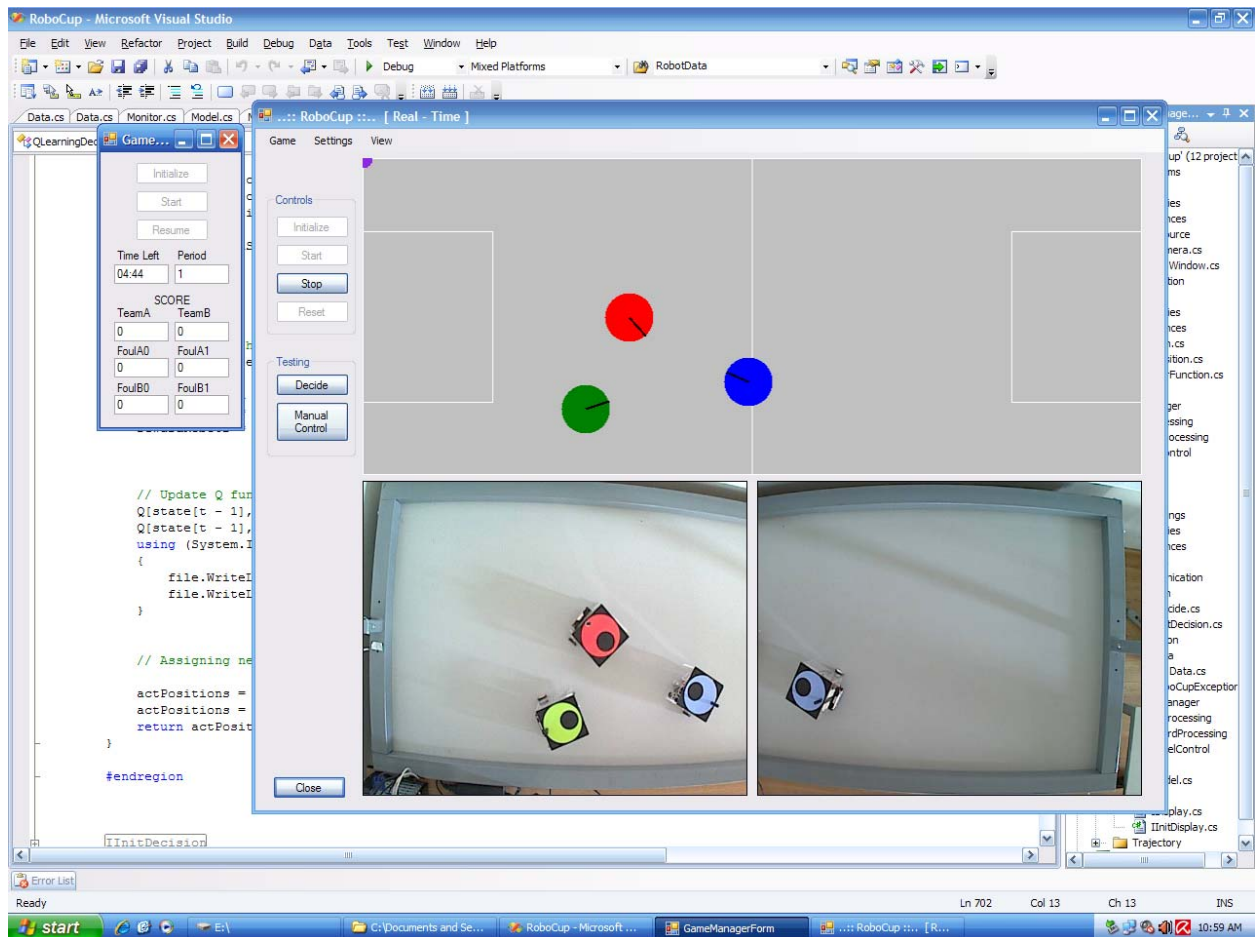
**Close up shot of the Robot Agents**

As part of the exchange we were required to take a Hungarian Culture class taught by a colleague of Dr. Marton. These classes were a refreshing change from working on computers all day in the lab and were actually quite interesting. We learned several things about Hungarian history and Transylvania. We focused more on the Hungarian language, and after only a few courses we were all able to have very basic conversations in Hungarian. I found this extremely helpful for all the time I would spend in Budapest. Our teacher was also very helpful with informing us of events and places to visit.



**Keith Farnworth, Egon Fernandes (Me), Dr. Lorinc Marton, Jasmeet Gill, Zoltan, Sasha La Tour (from left to right)**

Working on the project files for the robot system was overwhelming in the beginning because it is the first time I have seen such a large project file that contained a number of other smaller projects. Moreover, I was continuing the code of several students and there was no documentation to explain the code. So the first few weeks was spent learning C# and trying to understand the large project file and how I can add to the existing code. However, with hard work and Dr. Marton's motivational speeches we were able to output a great result.



**Screenshot of Main Application (showing camera feed and simulation)**

## Travels across Europe

### Romania

During my time in Romania I travelled to nearby cities to check out the sights. Sighisoara is a popular tourist destination because of the town's medieval architecture. Tourists are also drawn in by the fact that this place is the birth place of Vlad the Impaler or Dracula.



**Sighisoara, Romania**

Brasov was another beautiful city in Romania and arguably one of the best. Nearby attractions included Bran Castle (Dracula's Castle) located in the city of Bran, and very luxurious Peles Castle. A few Romania cities also had the name of the city up on a mountain, similar to the HOLLYWOOD sign; Brasov was one of these places.



**Brasov, Romania**



**Peles Castle**



**Bran Castle**

## **Budapest**

Budapest was just one cheap (as long as I only had hand luggage) and short WizzAir flight away from Tirgu Mures. I travelled there four times in total during this trip and had the most fun there. I got to meet up with my friend from Vancouver who was in the same program as me, but in Budapest. He showed me around town and I got to meet and make friends with several other international students there.

One of my best memories in Budapest was hiking up Gellért Hill and catching an amazing view of the city. Just walking around the city I got to see what beautiful architecture there was, as well as many wonderful statues and monuments at places like Hero Square. Budapest also had a great night life and a well organized international students program so I had many great nights with other students, even on a Tuesday night.



**Budapest, Hungary**

## **Ukraine**

In addition to the other eastern European countries I had travelled to was Ukraine. I stayed in the Kyiv, the capital city, with 4 others and had my first hostel experience. In the five days I spent there I got to see many wonderful things, as well as a few interesting museums.



**Kyiv, Ukraine**



## **Conclusion**

This semester has been an experience of a lifetime, complete with memories that will stay with me forever. By coming to Europe I have seen a completely different way of life, broadened my perspective of the world, and have learned several things through the course of this project. I feel extremely fortunate to have been selected to be part of this great exchange program and have had the opportunity to travel across Europe and have it count as school work. My problem solving skills and computer programming has been enhanced by working on this robot hockey project and Dr. Marton and Dr. Shahram deserve great thanks for being responsible for this project. It was great making friends through this program and broadening my network of connections as well as having a nice addition to my resume.