

## Month-Long Summer Workshop 2012, IRML

Demographics: 15 Participants, 11 Universities, 10 Nationalities

Results: 7 published papers so far, 5 continuing collaborations, 2 recruits

### 1) Nicola Bellotto (Senior Lecturer, University of Lincoln UK, Italian)

I very much enjoyed the weeks spent in Abu Dhabi and the experience of the IRML Summer Workshop. I found all the participants very enthusiastic and dedicated. The atmosphere was always friendly and ideal for some very good team work. I enjoyed many scientific discussions with academics colleagues and students that I found very stimulating and potentially beneficial for future research.

The hospitality was probably the best I have ever experienced in a foreign country. The host institution and the organizers of the summer school were very helpful and made sure everyone had a great time in all the related activities.

There are currently on-going discussions for research collaboration with Dr Mavridis, as well as several contacts with students met at the event. I would definitely recommend anyone to attend this summer school in the future, either as a student and/or invited speaker.

### 2) Wlodzislaw Duch (Full Professor, NTU Singapore, and now Deputy President, Copernicus Uni)

I have enjoyed very much interacting with the group of very capable international students, your collaborators and of course yourself.

The formula of the School was very interesting, with a few key lectures and a real research projects that the students were pursuing. I found it quite interesting to see real groups of students working together on interesting, real-world problems, and tried to give my advice to several teams. This was research-intensive school, no doubt about it. I am sure that students learned a lot from this experience, as was evident in their final presentation. I would certainly like to see more schools of this kind, this formula is much more efficient than the lecture-based schools that are quite common.

We have already discussed the collaboration with NTU, NCU and the NYU AD, as well as the more specific subjects related to the autonomous robotics. I hope that the Summer Schools will continue, and that we shall have more chances for collaboration in near future.

### 3) Alberto Brunete (Asst Professor, Carlos III Madrid, Spanish)

I really had a great experience at the IRML 2012 Summer School. It has been a good opportunity to get to know the New York University (Abu Dhabi Campus) and the Arab Emirates culture and way of life. It was also a good place to meet new people (at all research levels: Professors, PhDs, students) from all over the world and to start working in different research projects with the wise advice of Dr. Mavridis. Topics are open, and new ideas are always welcome. One of the best things is that this collaboration has not been limited to the summer school period, but it has led to continuation of collaboration and to publication of papers.

The organization was perfect and everyone in the organization was very kind and ready to help. Lodgment was superb, as well as weekend activities (visits to Dubai, Al Ain, dessert, etc.). I even travelled with my family and they had a really nice time. I really recommend this summer course to meet new people, know another culture and establish new research partnerships within a very promising lab.

4) Theo Varvadoukas (BSc Graduate, Athens Uni, Greek)

Overall my experience from the summer school is fantastic and proved to be very crucial for my life!

Excluding some minor misunderstandings in housing in the first days, the hospitality was great. The core IRML'ers were very helpful (especially Nick and Jin), ready to solve any problem that we were facing. The weekends were absolutely inspiring, I would never imagine that I would try and visit all these activities and places. They brought us in contact with the local culture and current way of living.

Being part of a multi-cultural group, consisted of different levels of expertise, was a first-time experience. I enjoyed it very much and this collaboration still takes place 3 months after the summer school. Interacting with researchers from all over the world gave me the chance to open my mind towards new perspectives.

Technically, the lectures covered a wide range of subjects, especially a variety and level of topics that are hardly found in any post-graduate program. Additionally, through the projects I had the chance to come closer to concepts like object recognition from a Kinect sensor, active learning, probabilistic graphical models and statistical social media analysis.

Apart from the further excellent collaboration with IRML'ers, I had the chance to also come in contact and become co-authors with researchers from DFKI and DLR in Germany, as well as from the Aristotle University of Thessaloniki in Greece. In only 3 months we have submitted 2 papers (one accepted) and are preparing a third one. More projects are waiting, by collaborating with researchers from different fields like Astrophysics! It is a great progress and exciting experience!

5) Javier Gomez Gonzalez (MSc Graduate, Carlos III Madrid, Spanish)

From the beginning, my expectations about the IRML summer school were quite high and these expectations have been completely exceeded. I can say that this program has changed my future completely.

In the professional part, the summer school allowed me to meet researchers from many other parts of the world whose probably I would never have met otherwise, Also, I worked in different research topics than I'm used, so I learned a lot about different fields of robotics research.

The way the groups are organized and their projects is unsurpassable: each one can decide what to do and in which group, increasing motivation and teamwork. I never worked until 23:30 before.

In the social side, the trips and activities carried out within the program are really great, living a different adventure every weekend. Definetively, I will never forget what I lived and the people I met in Abu Dhabi.

Furthermore, the IRML summer school has completely changed my PhD: now, I will carry out my research in collaboration with NYU AD. I'm sure that this fact will increase the quality of my research. To conclude, I would definetively recommend this program to other people in the future!

6) Haiwei Dong (Postdoctoral Researcher, NYU AD, Chinese)

The 2012 IRML Summer School was really fantastic! I really enjoyed this great event! In this

summer school, we learnt much about cognition science. To work with the researchers from different countries or regions was a great pleasure. Here, we exchanged ideas about the same problem from different research discipline (or even research philosophy).

The schedule in the summer school is also well considered and organized. We have guest presentation in the morning and group working in the afternoon. I like the guest lectures much not only because they are all high-level research shows, but also it is a valuable time to discuss with other member about some specific topics. The group working was also very exciting. In the group, everyone was assigned a different job. Meanwhile, we collaborated with each other when meeting some difficult problems.

In a word, I like the summer school so much! I would like to strongly recommend it to my friends.

7) Eirini Giannakidou (MEng Graduate, AUTH, Greek)

IRML-summer-school 2012 was a valuable experience for me in many aspects. First of all it helped me improve my knowledge in the field of robotics as well as it provided an opportunity to investigate deeply mathematical formulas and theories (mostly) in the statistics field. Working in the projects and gaining all this experience was really pleasant, especially due to collaborations with very interesting people and good scientists that motivated fruitful discussions and interesting findings.

Apart from the teaching aspect, attending the summer school gave a wonderful opportunity to visit Abu Dhabi and get in contact with eastern civilization. Furthermore, there were organized trips during which we had a great time and also had the chance to learn a lot about the history and civilization of Abu Dhabi, Dubai and other cities nearby and get involved in everyday life of an Arabian city (entertainment, shops, food, facilities, etc). The hospitality and the good will of the organizers were great, ensuring us, in general, a very pleasant staying there.

Now, 3 months after school, we are still working in projects and collaborations that were started there. Our project team achieved already a conference publication and we still expect results from another conference and a journal. Thank you for offering us such an opportunity! I would definitely recommend to researchers interested in this field to attend this school in future.

8) Arber Lenga (BSc Graduate, TU Thessaloniki, Albanian)

Participating to the summer school of 2012 was one of the greatest experiences I have ever had, regarding to my education. I really enjoyed being there and working on the project with the other participants. The most important skills that I was able to develop there, was the team work, working under time pressure and many others skills like social and cultural. Moreover, in the lab I got in touch with new technologies and many interested robots. But the most important was that I met great people from all over the world. It was my pleasure to work and share experiences and ideas with them.

The hospitality was much better that I could expect. Our hosts organized everything in the best way. The activities were very good organized as well. With all these activities I never felt board during my stay there. Every weekend our hosts organized trips, city tours, museum visits etc. to some of the best places in the world!

I would strongly recommend the summer school to anybody who wants in only one month to get experiences that will remember for the whole life.

9) Nikolas Giakoumidis (NYU AD Research Assistant, Greek)

Last summer I was one of the participants of the summer workshop which organized by Interactive Robots and Media Laboratory (IRML) of NYU Abu Dhabi. As research assistant of the IRML I was also one of the organizers of the summer workshop , under the supervising of dr. Nikolaos Mavridis.

The experience that I earn from this workshop is divided in different parts.

First of all on the summer workshop we did a number of projects, we arrange small groups of the participants and we combine the specialty of each one in order to make short term but interesting projects. So the experience from those projects was my participation on teamwork in order to achieve a common goal, the extension of knowledge on parts of robotics that I dint had the chance to know , by exchange ideas with the rest of the participants which were very skilled in their field. Some days during the workshop we work till late in order to complete the projects on time but were really fun for us because we did exactly that we like to do, in a global environment (because the participants was all over the world) and also except the knowledge exchange we did culture exchange.

As one of the organizers and host, I had some more responsibilities in order to make sure that all the participants will enjoy the their stay in the NYU facilities and in the UAE. That experience teach me how you can achieve to manage 20 people and make sure that everyone is satisfied and happy (which by the way, was very hard achievement) and according with the feedback of participants we successfully did it.

10) Byung-Chull Bae (Postdoctoral Researcher, TUCopenhagen, Korean)

The four-week IRML summer school was a great experience to me. Although I am not a researcher in robotics, I could easily find a good chance to collaborate with other researchers having diverse research background. Various talks were given in the summer school, which was very helpful to understand the areas that I am not so familiar with.

The IRML group members were great hosts. I really appreciate their warm hospitality. They were kind, passionate, and very open minded. I couldn't expect better summer school hosts. Abu Dhabi was a strange place to me before I joined the summer school, but it is now a city that I want to visit again when I get a chance. I would highly recommend for any AI researchers who have interest in robotics to attend the IRML summer school.

11) Evanthia Dimara (MSc Graduate, INRIA France, Greek)

Considering that I attended IRML Summer School just after my Bachelor degree, I could say that actually changed my whole approach towards Artificial Intelligence and Robotics and inspired me personally to redefine my academic interests and goals.

That is in terms of academia. In terms of joy, it was even better: we had surprisingly great time and a lot of FUN!

I worked in IRML for a month with important researchers from all over the world. We used the state of the art equipment and participated in many challenging projects a number of which led to important published work afterwards.

The morning lectures from well-known visitors stimulated me to dive into new realms broadening my research horizons. Additionally, we had many amazing activities such as :excursions to local attractions, tours, Abu Dhabi night life explorations ,swimming, kayak, surfing, desert safari

etc. As a matter of fact, the excellent collaboration, the friendly atmosphere, the great research results were only a few of the reasons why we still work together remotely and arrange future collaborations.

But to be precise, what made that Summer School unique was actually Dr Mavridis. His impressive academic background, his spirit and passion for research, his kind hospitality, his jokes and his non-stop mood for fun and joy created a really strange combination. We were academically challenged and had fun as in a high school trip at the same time! What I personally enjoyed even more was our "off topic" discussions around art, philosophy and science which were really inspirational even for our ongoing projects.

In shortcut, IRML Summer School is beyond a program that benefits a CV; is an exciting adventure in which you may explore your own academic self. Do not just attend but experience every moment of it!

#### 12) Umair Ahsan (NYU AD Undergraduate, Pakistani)

I participated in summer school as a part of my summer internship with Professor Nikolaos. Summer School was a very well rounded and deeply enriching experience. It brought together participants from all over the globe which represents the global mission of NYUAD, and this was the main strength of the summer school. Working with people from different countries, universities and disciplines helped me understand the applications of robotics and computer science in a larger context. I am still in collaboration with few summer school participants to further develop the projects initiated during summer school. Furthermore the useful contacts built during summer school will definitely help me in finding similar opportunities in future. I believe I gained valuable experience in using MATLAB program to model and improve real life models, and first hand experience in writing formal engineering papers under supervision of Professor Nikolaos.

Summer school was not entirely research based; we had many fun trips to other cities during the weekend where we relaxed and got an opportunity to explore the culture of UAE in depth. The workload during summer school was balanced very well with other activities. I would recommend this summer school anyone who is looking for collaboration with best researchers around the world and for robotics and computer science related opportunities in UAE and Gulf countries.

#### 13) Jermsak Jermsurawong (NYU AD Undergraduate, Thai)

Over the summer school, I have learned programming in MatLab. Before this, I have never had any rigorous work with coding. However, the learning has been very enjoyable and meaningful. I constantly received guidance from Professor Nikolaos and Dr.Hai Wei. It was nonetheless never passive learning. I encountered a problem and tried to find out the problem by myself as much as possible. The experience with programming for meaningful applications helped me to better decide if my major would be computer engineering. Moreover, the programming skills acquired from this summer school has helped me greatly in my computer science class. I can relate easily to what is taught in class because I have seen it in the real world problem-solving.

The bonding experience with other students helped in the continuation of work. Through the trips and cultural activities, it helped the students to gain trust and good-will. I myself continued to work with two students and the project culminated in a publication of a conference paper. Through working with them, I also have learned from the working styles of other students who are great experts in their fields. One student was a manager from Samsung research lab. He led a brainstorming session that results in creative ideas. Being together with other students to work and explore UAE was a meaningful experience.

14) Paschalis Veskos (PhD Graduate, Imperial College London)

The summer school in Interactive Robotics and Media was an excellent opportunity for me to collaborate academically at a very intense level after I have completed my postgraduate studies and before moving on to my next post. After so many days filled with learning by attending seminars, experimenting and above all, in-depth, illuminating discussions, I feel I have truly benefited from the experience.

I greatly value the opportunity I had to familiarise myself with an elaborate situated conversational robot system and delve deeply into its innards in order to extend its abilities. The ability to learn by using an applied system, as opposed to a mere simulation, was important in exposing the difficulties inherent in implementing such systems; it was also greatly gratifying to see the fruit of our labour "alive"!

I personally found the extracurricular activities thoroughly enjoyable, allowing me to take a break from the demanding schedule and recharge. What is more, the sense of international community that developed during the summer school made day to day work and collaboration ever more pleasant and satisfying! I also believe everyone appreciated the efforts of the local committee to make everything run smoothly, so top marks there.

With the organisational experience gained, I think any minor issues that arose will not occur next time. If I may be allowed to make a suggestion towards improving the summer school, that would be to have some sort of structure regarding the seminars: Something like an "introduction to AI" lecture series during the first week would help in creating a common "big picture" for the participants, despite the different backgrounds. This way the road would be paved for the seminars in the following weeks to be more detailed and informative, especially for the junior participants.

15) Usman Malik (MSc Graduate, NUST Pakistan)

The summer school was an awesome experience. The most striking aspect was the diversity in the previous research exposure of the participants. The IRML'ers were from backgrounds covering all the major branches in core robotics and AI and I had a good time with them and we've become one big group of friends. This multicultural group provided a good opportunity to learn about working in a multiethnic environment and also get educated about other cultures. I now know the everyday colloquial phrases in 5 languages other than my own!

The talks by researchers in fields adjoining robotics and AI were also a major learning prospect. I enjoyed imbibing and being challenged by the vast amounts of information and knowledge that were virtually being thrown at us from all sides. Specifically the talks on the synergy of philosophy and AI, cognitive brain models and formal logic were exceptional.

In my one month stay there was never a dull moment. The excursion trips to sights in and around Abu Dhabi were a swell affair. Our hosts were more like our pals than anything else. There were some problems with managing activities sometimes but overall the hospitality was excellent. My stay has generated many fond memories and opportunity to make great friends and for that I would like to thank everyone involved in the organization of the IRML summer school especially Dr.Nikolaos. Moreover, my stay has led to the beginning of research collaboration that still goes on. I would surely want to recommend the summer to others.

16) Jin U Bak (NYU AD Undergraduate, Korean)

IRML Summer School 2012 was a great experience for me. As an undergraduate student, I don't really find such a great opportunity to work with people around the world with higher degrees such as Masters and Phd and also other professors from other universities in different parts of the world. It gave me a chance to work with them for a month in a friendly and very comfortable environment where people come with different skills and we collaborate to work on different projects and also share our past experiences.

I did not participate only as a participant but since I was doing my internship, I had to work more in organizing trips and also helping other participants to settle down in new environment. I would never get a chance to lead a group where people are older, more talented and also more educated in any other places. I developed my leadership skill and also communication skill with others from different backgrounds. I truly enjoyed working with such an amazing group of people. Everyone was so talented and IRML Summer school is one of the few places where you can meet and talk about amazing projects with very unique and talented people around the world! I would definitely recommend this to others!

I have learnt not only technical stuff about UAVs and UGVs but also learnt how to work with others and also to work under pressure(due to limited time)! It was also a great place to share our experiences and also hear from others! As an undergraduate student, they gave me really good and helpful advice that could help me in the future with my career and also further studies. I believe that I was a lucky one to be part of this group and summer school!

Thank you so much for organizing such an amazing summer school and I would love to participate again in the future!