

Sabbatical Leave Report for the period August 20, 2007 to May 9, 2008
Nilufer Onder

The two main goals of my sabbatical leave were to continue developing research software and to work on extensions to my research area of Artificial Intelligence and Planning. I am pleased to report that I have accomplished my goals during my sabbatical leave at Middle East Technical University (METU), Ankara, Turkey.

In the area of research software, I worked with my PhD student Li Li. We developed a planning system that can produce plans for complex environments that require temporal reasoning, dealing with uncertainty, and incorporating parallel actions. The results of this work were published in a very prestigious conference (AAAI-08). I helped Li prepare an application for a very selective doctoral consortium at the same conference. His acceptance helped him to discuss his work with professors and researchers, and also to learn about the career options that are available to him. Li is currently working to finish his PhD.

In the area of collaborations, I worked with several faculty members and graduate students at METU. I advised Mr. Mehmet Kuzu (advisor: Dr. Nihan Kesim) on the use of planning systems for web service composition. I advised Mr. Mohammed Al Zamil (advisor: Dr. Aysu Betin Can) on multi-agent planning. Dr. Pinar Senkul was a new collaborator whose expertise in data mining helped create new directions of research. Dr. Senkul and I worked with Dr. Jaime Camelio from the ME-EM department (currently at Virginia Tech), to develop an NSF CDI (Cyber-enabled Discovery and Innovation) proposal in the area of data mining in manufacturing systems. Even though the proposal was not encouraged within the CDI framework, the ideas were acknowledged as novel by the reviewers.

I continued to co-advise Computer Science M.Sc. student Mr. Matt Watkins with Dr. Amlan Mukherjee from the Civil Engineering Department at MTU. I worked with the Civil Engineering faculty at METU to exchange information on current projects. I presented a seminar titled "A Potpourri of Planning and Scheduling Research Projects at Michigan Tech" on March 26, 2008. The seminar helped me explain our interdisciplinary research and establish connections with the Civil Engineering faculty at METU. I presented a Computer Science Department seminar that outlines my research results upon my return on September 19, 2008.

My new collaboration with Dr. Pinar Senkul resulted in one M.Sc. and one Ph.D. research that are both continuing. We are supervising Mr. Engin Maden at the Department of Computer Engineering (METU) along with Dr. Soner Onder on the use of machine learning in Computer Architecture. This work led to define the Ph.D. topic of Mr. Hui Meen Nyew at the Department of Computer Science (MTU). Hui Meen is testing and developing machine learning algorithms under our joint supervision.

In summary, my sabbatical leave was very productive in developing both existing and new external research projects.