

Çetin Meriçli

CONTACT INFORMATION

Computer Science Department
Carnegie Mellon University
5000 Forbes Ave.
Pittsburgh, PA 15213, USA

Voice: +1 (412) 268-8525

Fax: +1 (412) 268-5576

E-mail: cetin@cmu.edu
WWW: <http://cetin.mericli.com>

CITIZENSHIP

Turkish

RESEARCH INTERESTS

Robot learning from demonstration, imitation learning, open-ended robot learning, developmental robotics, human-robot interaction, interactive entertainment robots, socializable robots, multi-robot systems, robot soccer, performance evaluation methods for multi-agent systems, probabilistic robotics, robot perception, software engineering methodologies for large scale robotic software development projects.

EDUCATION

Boğaziçi University, İstanbul, TURKEY

Ph.D., Computer Engineering, 2005 - 2011

- Thesis Topic: Multi-Resolution Model Plus Correction Paradigm for Task and Skill Refinement on Autonomous Robots
- Advisors:
 - Professor H. Levent Akin, Boğaziçi University
 - Professor Manuela Veloso, Carnegie Mellon University,

M.S., Computer Engineering, 2005

- Thesis Topic: Developing A Novel Robust Multi-agent Task Allocation Algorithm for Four-Legged Robot Soccer Domain
- Advisor: Professor H. Levent Akin

Marmara University, İstanbul, TURKEY

B.S., Computer Engineering, 2002

RESEARCH EXPERIENCE

Carnegie Mellon University, Pittsburgh PA, USA

Post-doctoral Fellow

August 2011 -

- Starting in August 2011, I will be working as a post-doctoral fellow in CORAL research group under the supervision of Prof. Manuela Veloso.

Member, CORAL Research Group

2009 - Present

- I've been conducting research on learning complex tasks and low level skills on Aldebaran Nao humanoid robot using corrective human demonstration as part of my PhD thesis under the supervision of Prof. Manuela Veloso.

Member, CMurfs RoboCup SPL Team

2010

- I was responsible for the new software infrastructure, the motion software interface module, visual detection of the field lines, line intersections, and visual free space modeling. I was also responsible for the dribbling challenge for which I utilized learning from corrective demonstration methods from my PhD thesis. **We finished 4th in the soccer competitions and 3rd in the technical challenges.**

Boğaziçi University, İstanbul, TURKEY

Research Assistant

2007 - 2009

- As a member of the project titled “Development Of Decentralized Partially Observable Markov Decision Process Algorithms For Multi-Robot Teams”, I was responsible for the development of the software infrastructure working on the robots, the development of appropriate metrics for the learning and evaluation of soccer playing skills, and the implementation of the developed approximate DEC-POMDP solutions on real robots.

Member, Cerberus RoboCup SPL Team

2003, 2009

Student leader, Cerberus RoboCup SPL Team

2004 - 2008

- Having started in 2003, my main focus had been on creating a sustainable and productive development methodology, managing the project, and leading the development of sophisticated debugging tools which I consider the most important factor in robotic software development. I had also been heavily involved in various parts of the software including high performance low-level computer vision, planning and behavior, communication, and probabilistic self-localization modules. **Cerberus won the technical challenges in 2005, and reached the quarterfinals in 2006 and 2008.**

TEACHING EXPERIENCE

Boğaziçi University, İstanbul, TURKEY

*Teaching Assistant to **Autonomous Robots**, a graduate level introductory robotics course.*

2005 - 2009

- I was responsible for the design, management, and grading of the term projects as well as covering some topics like kinematics and self localization as a guest lecturer.

*Teaching Assistant to **Introduction to Robotics**, an undergraduate level course based on Lego Mindstorms NXT kits.*

2007 - 2008,2010

- I was responsible for designing and supervising the laboratory sessions, designing and managing the term projects of the course as well as covering some topics as a guest lecturer. I was also in charge of grading the laboratory sessions and the term projects.

AWARDS, HONORS, AND SERVICE

- Organization Co-chair, RoboCup 2011
- Recipient of The Scientific and Technological Research Council of Turkey (TÜBİTAK) Programme 2214 Scholarship (2009)
- Completed undergraduate study holding a high-honor degree, ranked 2nd out of 40 students (2002)
- First place in RoboCup05 4-Legged League Technical Challenges as the student leader of the Cerberus team (2005)
- Co-chair, Humanoid Robots Learning From Human Interaction Workshop at Humanoids 2010
- Local Organization Committee member, NATO ASI 2010: Advanced All-Terrain Autonomous Systems (2010)
- Local Organization Committee member, CLAWAR (2009)
- Program Committee member, RoboCup Symposium (2009-)
- Organization Committee chair, RoboCup Standard Platform League (2009)
- Organization Committee member, RoboCup Standard Platform League (2007-2008)
- Referee, FIRST Lego League Turkey (2008)
- Program Committee member, Computer Science Student Workshop (2011)

PROFESSIONAL
EXPERIENCE

i Bilişim Ltd. Şti., İstanbul, TURKEY

Co-founder

2007 - Present

- Design and implementation of a commercial robotic mannequin, a general purpose omni-directional robotic platform prototype, and a robotic head prototype with rich expressive abilities and sensors for human-robot interaction research.

Arçelik A.Ş., İstanbul, TURKEY

Senior Software Engineer

2004 - 2007

- Developed several large-scale business workflow applications on the intranet web for approximately 1000 concurrent users.
- Designed the first distributed implementation of Microsoft SharePoint portal in Turkey as a part of the development team.
- Led the migration process of the entire IT department (approximately 150 developers) to the new project management framework using Microsoft Project Professional.

REFERENCES

Prof. H. Levent Akin (akin@boun.edu.tr)

Prof. Manuela Veloso (veloso@cs.cmu.edu)

Prof. Ethem Alpaydın (alpaydin@boun.edu.tr)

Prof. Okyay Kaynak (o.kaynak@ieee.org)

SELECTED
PUBLICATIONS

Book

- Çetin Meriçli. “Reading the Game: A Robust Layered Game Evaluation and Task Allocation Method for Robot Soccer”, LAP Lambert Academic Publishing, 2010.

Book Chapter

- Hatice Köse, Kemal Kaplan, Utku Tatlıdede, Çetin Meriçli, and H. Levent Akin. “Market-Driven Multi-Agent Collaboration in Robot Soccer Domain”. In Vedran Kordic, Aleksandar Lazinica, and Munir Merdan, editors, *Cutting Edge Robotics*, Pro Literatur Verlag, 2005.

Refereed Journal

- Çetin Meriçli, Manuela Veloso, and H. Levent Akin. “Task Renement for Autonomous Robots using Complementary Corrective Human Feedback”. *International Journal of Advanced Robotic Systems* (accepted).
- Çetin Meriçli, Manuela Veloso, and H. Levent Akin. “Improving Biped Walk Stability with Multi-phase Corrective Demonstration”. *Autonomous Robots* (submitted).
- Zeynep Yücel, Albert Ali Salah, Çetin Meriçli, Tekin Meriçli, Roberto Valenti, and Theo Gevers. “Joint Attention by Gaze Interpolation and Saliency”. *IEEE Transactions on Image Processing* (submitted).

Refereed Conference and Workshop

- Çetin Meriçli and Manuela Veloso. “Biped Walk Learning Through Playback and Corrective Demonstration”. In *AAAI 2010: Twenty-Fourth Conference on Artificial Intelligence*, 2010

- Çetin Meriçli, Manuela Veloso, and H. Levent Akin. “Complementary Humanoid Behavior Shaping using Corrective Demonstration”. In Proceedings of 2010 IEEE-RAS International Conference on Humanoid Robots, December 6-8, 2010, Nashville, TN, USA, 2010.
- Brian Coltin, Somchaya Liemhetcharat, Çetin Meriçli, Junyun Tay, and Manuela Veloso. “Multi-Humanoid World Modeling in Standard Platform Robot Soccer”. In Proceedings of 2010 IEEE-RAS International Conference on Humanoid Robots, December 6-8, 2010, Nashville, TN, USA, 2010.
- Brian Coltin, Somchaya Liemhetcharat, Çetin Meriçli, and Manuela Veloso. “Challenges of Multi-Robot World Modelling in Dynamic and Adversarial Domains”. In Workshop on Practical Cognitive Agents and Robots, 9th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2010), 2010.
- Serhan Daniş, Tekin Meriçli, Çetin Meriçli, and H. Levent Akin. “Robot Detection with a Cascade of Boosted Classifiers Based on Haar-like Features”. In RoboCup Symposium 2010: Robot Soccer World Cup XIV, , 2010.
- Çetin Meriçli and Manuela Veloso. “Improving Biped Walk Stability Using Real-time Corrective Human Feedback”. In RoboCup Symposium 2010: Robot Soccer World Cup XIV, , 2010.
- Çetin Meriçli and Manuela Veloso. “Biped Walk Learning On Nao Through Playback and Real-time Corrective Demonstration” (extended abstract). In Workshop on Agents Learning Interactively from Human Teachers, 9th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2010), 2010.
- Çetin Meriçli, Tekin Meriçli, and H. Levent Akin. “A Reward Function Generation Method Using Genetic Algorithms: A Robot Soccer Case Study”. In 9th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2010), 2010.
- Zeynep Yücel, Albert Ali Salah, Çetin Meriçli, and Tekin Meriçli. “Kafa Duruşu Kestirimlerinden Bakış Yönünün Türetilmesi” (In Turkish). In SIU 2010 Sinyal Ileme Uygulamalar evresel Zeka ve Sosyal Sinyal Ileme zel Oturumu , 2010.
- H. Levent Akin, Çetin Meriçli, Tekin Meriçli, and Ertan Doğrultan. “Introduction to Autonomous Robotics with Lego Mindstorms”. In MOBILE ROBOTICS- Solutions and Challenges, Proceedings of the Twelfth International Conference on Climbing and Walking Robots and the Support Technologies for Mobile Machines (CLAWAR 2009), Istanbul, Turkey, 9 11 September 2009, O. Tosun, H. L. Akin, M. O. Tokhi and G S Virk (Ed.), World Scientific, 2009, pp. 733740, 2009.
- Tekin Meriçli, Çetin Meriçli, Ergin Özkucur, Can Kavakloğlu, Barış Gökçe, and H. Levent Akin. “Dealing with Uncertainty in Structured Environments: A Robot Soccer Case Study”. In MOBILE ROBOTICS- Solutions and Challenges, Proceedings of the Twelfth International Conference on Climbing and Walking Robots and the Support Technologies for Mobile Machines (CLAWAR 2009), Istanbul, Turkey, 9 11 September 2009, O. Tosun, H. L. Akin, M. O. Tokhi and G S Virk (Ed.), World Scientific, 2009, pp. 98105, 2009.
- Tekin Meriçli, Çetin Meriçli, and H. Levent Akin. “A Robust Statistical Collision Detection Framework for Quadruped Robots”. In RoboCup 2008: Robot Soccer World Cup XII, L. Iocchi, et al. (Eds.), LNAI Vol. 5399, 2009., pp. 145156, 2009.
- Çetin Meriçli and H. Levent Akin. “A Layered Metric Definition and Validation Framework for Multirobot Systems”. In RoboCup 2008: Robot Soccer World Cup XII, L. Iocchi, et al. (Eds.), LNAI Vol. 5399, 2009., pp. 568579, 2009. s
- Zeynep Yücel, Albert Ali Salah, Çetin Meriçli, and Tekin Meriçli. “Joint Visual Attention Modeling for Naturally Interacting Robotic Agents”. In 24th International Symposium on Computer and Information Sciences (ISCIS

2009), 2009. (accepted)

- Kemal Kaplan, Buluç Çelik, Tekin Meriçli, Çetin Meriçli, and H. Levent Akın. “Practical Extensions to Vision-Based Monte Carlo Localization Methods for Robot Soccer Domain”. In RoboCup, pp. 624631, 2005.
- Hatice Köse, Utku Tatlıdede, Çetin Meriçli, Kemal Kaplan, and H. Levent Akın. “Q-Learning based Market-Driven Multi-Agent Collaboration in Robot Soccer”. In TAINN, pp. 219228, 2004.
- Çetin Meriçli, I. Osman Tufanoğulları, and H. Levent Akın. “World Modeling in Disaster Environments with Constructive Self-Organizing Maps for Autonomous Search and Rescue Robots”. In RoboCup, pp. 467473, 2004.
- Hatice Köse, Kemal Kaplan, Çetin Meriçli, and H. Levent Akın. “Genetic Algorithms Based Market-Driven Multi-Agent Collaboration in the Robot-Soccer Domain”. In FIRA Robot World Congress, 2003.
- Hatice Köse, Çetin Meriçli, Kemal Kaplan, and H. Levent Akın. “All Bids for One and One Does for All: Market-Driven Multi-agent Collaboration in Robot Soccer Domain”. In ISCIS, pp. 529536, 2003.