

Assist. Prof. M. FURKAN KIRAC
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EDUCATION:

Sep.2002 - Sep.2013	Boğaziçi University PhD in Computer Engineering, CGPA 3.94 Adviser: Prof. Lale Akarun Thesis Title: Real-time Human Hand Pose Estimation and Tracking using Depth Sensors	Istanbul / Turkey
Sep.2000 - Jun.2002	Boğaziçi University MS in Systems and Control Engineering, CGPA 4.00 Adviser: Prof. Ümit Bilge Thesis Title: Genetic Algorithm Approach to Parallel Machine Total Tardiness Problem	Istanbul / Turkey
Sep.1996 - Jun.2000	Boğaziçi University BS in Mechanical Engineering, CGPA 3.31.	Istanbul / Turkey
Sep.1989 - Jan.1996	Kadıköy Anatolian High School	Istanbul / Turkey

RESEARCH INTERESTS:

Computer Vision
Machine Learning

TEACHING INTERESTS:

Programming Languages
Embedded Programming
Computer Vision
Machine Learning
Computer Organization

EXPERIENCE:

Sep. 2013 – ...	Assist. Prof., Computer Science Department,	Özyeğin University
Sep. 2012 – Aug. 2013	Part-time Instructor, Computer Science Department,	Özyeğin University
Apr. 2009 – Aug. 2013	Research Assistant, Computer Engineering Department,	Boğaziçi University
Sep. 2009 – Aug. 2013	Teaching Assistant, Computer Engineering Department, - CMPE537, Computer Vision, Fall 2009 - CMPE150, Introduction to Computing, Spring 2012	Boğaziçi University
Jul. 2000 – Apr. 2009	Proksima Corporation Founder Partner & IT Manager, Computer Vision based R&D firm	Istanbul / Turkey
Jul. - Sep.1998	Toyota Automobile Factory Member of a team preparing 3D modeling of car components. Studied the fatigue fracture failures of transmission components.	Adapazari / Turkey

AWARDS and ACHIEVEMENTS:

- 2012 3rd place in best demo award, SIU 2012, Muğla, Turkey.
- 2012 Best application paper award, SIU 2012, Muğla, Turkey.
- 2008 Programmed the first Computer Vision based Gas Filling Automation System.
Used for automatic filling of gas tanks for a major Turkish energy company.
- 2006 Ported the tire design software INFMT/G from Fortran'77 VAX to today's PCs.
The code is actively being used for tire development in BRISA.
- 2005 2nd place in best paper award, SIU 2005, Kayseri, Turkey.
- 2004 Programmed the first Computer Vision based Filling Quality Control Automation System.
Software is currently being used in BP Gas at Yarimca, Turkey.
- 2003 Programmed the first Turkish License Plate Recognition Software Platasis[®].
Software is currently being used widely in Turkey. (www.platasis.com.tr)
- 2001 Programmed fluid mechanics airflow simulator AIRSIM for a major Turkish brand Arçelik.
Simulator has been used in the research phase of "Orbital" series refrigerators.
- 1995 Represented Turkey in 1995 London International Youth Science Forum.
Sponsored by British Council.
- 1995 2nd degree in National High School Students Computer Research Project Competition.
Project was an Operating System built on DOS which used a Windows 95 like GUI.
Windows 95 was not released yet.
- 1995 2nd position in III. National Computer Science Olympiads, Marmara Territory.
- 1995 3rd position in III. National Computer Science Olympiads, Turkey.
- 1994 1st position in II. National Computer Science Olympiads, Marmara Territory.
- 1994 3rd position in II. National Computer Science Olympiads, Turkey.

SKILLS:

- Spoken Languages: Fluent English, intermediate German, native Turkish speaker.
- Programming: More than 25 years of C++ and C experience.
Also proficient in Java, Assembly (680x0, 80x86), Perl, Fortran.
- Operating Systems: Extensive knowledge in Linux, Windows, Android and AmigaOS.
- Computer Graphics: Intermediate knowledge of 3D Studio Max.
Advanced knowledge of Ogre Game Development Framework.
- Distributed Computing: OpenMP, MPI, Sun Grid Engine.
- Database Engines: Extensive knowledge of SQL on PostgreSQL and FirebirdSQL.
- Web Technologies: Advanced knowledge on HTML, CSS, Javascript, AJAX.

ACADEMIC SERVICE:

Reviewer, Elsevier Image and Vision Computing Journal

Reviewer, Elsevier Pattern Recognition Letters Journal

Reviewer, Elsevier Image Communications Journal

Reviewer, SIU 2012 Conference

INTERNATIONAL JOURNAL PUBLICATIONS:

1. **F. Kırac**, Y. E. Kara, L. Akarun, "Hierarchically Constrained 3D Hand Pose Estimation using Regression Forests from Single Frame Depth Data", Pattern Recognition Letters - Special Issue on Depth Image Analysis, 2013.
2. Ü. Bilge, M. Kurtulan, **F. Kırac**, "A Tabu Search Algorithm for the Single Machine Total Weighted Tardiness Problem", European Journal of Operational Research, 176 (3), 1423-1435, 2007
3. Ü. Bilge, **F. Kırac**, M. Kurtulan, P. Pekgün, "A Tabu Search Algorithm for Parallel Machine Total Tardiness Problem", Computers and Operations Research, v.31 n.3, p.397-414, 2004.

INTERNATIONAL CONFERENCE / WORKSHOP PUBLICATIONS:

1. C. Keskin, **F. Kırac**, Y. E. Kara, L. Akarun, "Hand Pose Estimation and Hand Shape Classification using Multi-layered Randomized Decision Forests", In Proceedings of ECCV, 2012
2. C. Keskin, **F. Kırac**, Y. E. Kara, L. Akarun, "Randomized decision forests for static and dynamic hand shape classification", In Proceedings of CVPR, Gesture Recognition Workshop, 2012.
3. A. A. Kındıroğlu, R. Yorgancı, **F. Kırac**, M. Aydın, M. Hruz, H. Köse, L. Akarun, "Multimodal Sign Language Game Interface", In Proceedings of eINTERFACE, The Summer Workshop on Multimodal Interfaces, 2011.
4. C. Keskin, **F. Kırac**, Y. E. Kara, L. Akarun, "Real Time Hand Pose Estimation using Depth Sensors", In Proceedings of IEEE ICCV Workshop on Consumer Depth Cameras, 2011.
5. C. Keskin, İ. Arı, T. Eren, **F. Kırac**, L. Rybok, H. Ekenel, R. Stiefelhagen, L. Akarun, "Vision Based Hand Puppet", In Proceedings of eINTERFACE 2010, The Summer Workshop on Multimodal Interfaces, 2010, p. 10-17.

NATIONAL CONFERENCE PUBLICATIONS:

1. **F. Kırac**, Y. E. Kara, C. Keskin, L. Akarun, "Depth Image Based 3D Hand Pose Estimation Framework", In Proceedings of SİU 2012.
2. C. Keskin, **F. Kırac**, Y. E. Kara, L. Akarun, "3D Hand Pose Estimation and Classification Using Depth Sensors", In Proceedings of SİU 2012.
3. **F. Kırac**, Lale Akarun, "Real-time Pose Tracking Based on a 3D Skeletal Model Using Multiple Cameras", In Proceedings of SİU 2011.
4. **F. Kırac**, Lale Akarun, "Human Hand Tracking in Image Sequence using Particle Filters", In Proceedings of SİU 2005.