

MELIH SEREF ASLAN

msasla01@louisville.edu or melihaskantr@yahoo.com
+1-502-345-2182

EDUCATION

- 2007-Present** **Doctor of Philosophy, Electrical and Computer Engineering**
University of Louisville, Louisville, Kentucky
- 2005 – 2007:** **Master of Science, Electrical and Computer Engineering,** July 2007
University of South Alabama, Mobile, Alabama
- 2000 – 2005:** **Bachelor of Science, Electronics Engineering,** August 2005
Fatih University, EEE Department, Istanbul, Turkey
- 2005:** Victoria University of Technology, Electrical Engineering Department
Melbourne, VIC, AUSTRALIA (Student Exchange)

AREA OF INTERESTS

- Medical Imaging, Image Processing, Pattern Recognition.
 - o Segmentation and Registration:
 - Probabilistic Shape Models,
 - Markov-Gibbs Random fields,
 - Level Sets,
 - Graph Cuts, Iterated Conditional Modes.
 - o 3D Human Spinal Bone Segmentation for Analysis

EXPERIENCE

- 2007-Present :** Graduate Research assistant at University of Louisville,
Computer Vision and Image Processing (CVIP) Lab.
Medical Imaging: Segmentation, registration, texture analysis, statistical shape
priors.
- 2005-2007 :** Research assistant at University of South Alabama in JWATH Team
Image Processing: Target detection and tracking in infrared images.
- June 2004 :** Turkish Airlines, Avionics Department, Istanbul 8 weeks. (Full Time)
Avionics, Communication
- June 2003:** Mercedes-Benz Turkey, Automotive, Istanbul 8 weeks. (Full Time)
Programming, Control

PUBLICATIONS

2011 :

M. Aslan, H. Abdelmunim, and Aly A. Farag, "A probabilistic shape-based segmentation using level sets," *1st IEEE Workshop on Information Theory in Computer Vision and Pattern Recognition (ICCV workshop)*, 2011, accepted to appear.

Melih S. Aslan, Hossam Abdelmunim, Aly A. Farag, Ben Arnold, Eslam Mustafa, Ping Xiang, "A new shape based segmentation framework using statistical and variational methods," *Proc. of 2011 IEEE International Conference on Image Processing (ICIP)*, 2011, accepted to appear.

Melih S. Aslan, Eslam Mustafa, Hossam Abdelmunim, Ahmed Shalaby, Aly A. Farag, and Ben Arnold, "A novel probabilistic simultaneous segmentation and registration using level set," *Proc. of 2011 IEEE International Conference on Image Processing (ICIP)*, 2011, accepted to appear.

Melih S. Aslan, Aly A. Farag, Ben Arnold, and Ping Xiang, "Segmentation of vertebrae using level sets with expectation maximization algorithm," *Proc. of 2011 IEEE International Symposium on Biomedical Imaging (ISBI)*, 2011.

Melih S. Aslan, Asem Ali, Aly A. Farag, Hossam Abdelmunim, Ben Arnold, and Ping Xiang, "A new segmentation and registration approach for vertebral body analysis," *Proc. of 2011 IEEE International Symposium on Biomedical Imaging (ISBI)*, 2011.

2010 :

Melih S. Aslan, Asem Ali, Ham Rara, and Aly A. Farag, "An Automated Vertebra Identification and Segmentation in CT Images," *Proc. of 2010 IEEE International Conference on Image Processing (ICIP)*, pp. 233-236, 2010.

Melih S. Aslan, Asem Ali, Dongqing Chen, Ben Arnold, Aly A. Farag, and Ping Xiang, "3D Vertebrae Segmentation Using Graph Cuts With Shape Prior Constraints," *Proc. of 2010 IEEE International Conference on Image Processing (ICIP)*, pp. 2193-2196, 2010.

Melih S. Aslan, Asem Ali, Aly A. Farag, Ham Rara, Ben Arnold, and Ping Xiang, "3D Vertebral Body Segmentation Using Shape Based Graph Cuts," *Proceedings of the International Conference on Pattern Recognition (ICPR)*, pp. 3951-3954, 2010.

Melih S. Aslan, Asem Ali, Aly A. Farag, Ben Arnold, Dongqing Chen, and Ping Xiang, "3D Vertebrae Segmentation in CT Images with Random Noises" *Proceedings of the International Conference on Pattern Recognition (ICPR)*, pp.2290-2293, 2010.

Melih Aslan, Asem Ali, Ham Rara, Ben Arnold, Rachid Fahmi, Aly Farag, and Ping Xiang, "A Novel, Fast, and Complete 3D Segmentation of Vertebral Bones" *International Conference on Acoustic, Speech, and Signal Processing, ICASSP 2010*, March 2010.

2009 :

Melih S. Aslan, Aly A. Farag, Hossam Abdelmunim, and Mohamed A. El-Ghar, "Assessment of kidney function using dynamic contrast enhanced MRI techniques," Book Chapter of *Biomedical Image Analysis and Machine Learning Technologies: Application and Techniques*, Editors: Fabio Gonzalez and Eduardo Romero, 2009.

Melih S. Aslan, Asem Ali, Ben Arnold, Rachid Fahmi, Aly A. Farag, and Ping Xiang, "Segmentation of trabecular bones from vertebral bodies in volumetric CT spine images," *Proc. of IEEE International Conference on Image Processing (ICIP'09)*, Cairo, Egypt, November 7-11, 2009.

Melih S. Aslan, Asem Ali, Ham Rara, Ben Arnold, Aly A. Farag, Rachid Fahmi, and Ping Xiang, "A Novel 3D Segmentation of Vertebral Bones from Volumetric CT Images Using Graph Cuts," *5th International Symposium on Visual Computing (ISVC-09)*, Las Vegas, Nevada, Nov 30-Dec 2, 2009.

- 2005-2008** :
- Target Detection and Tracking Using FKT, DCCF, and PDCCF and Comparing These Methods, SPIE 2008.
 - Target Detection Algorithm by Eliminating Manual Intervention Using the K-means Algorithm, SPIE 2008.
 - Face Recognition Algorithm using Hyperspectral Imagery, SPIE 2007.
 - Object Detection in Hyperspectral Images by Using K-means Clustering Algorithm with a Pre-Processing, SPIE 2007.
 - Improved Target Detection Algorithm Using Fukunaga-koontz Transform and Distance Classifier Correlation Filter, SPIE 2006.

PERSONAL SKILLS AND ABILITIES

Computer Skills

Programming Languages:

- Matlab
- C++
- VHDL (Warp)

Engineering Tools:

- VTK
- AutoCAD
- Mapple
- Electronics Workbench 5.12

Hardware:

- Siemens Step7-200 and Omron PLCs
- Intel 8051/8085/8088 microcontroller

Languages:

- Turkish, English.

AWARDS

- 2005-2007:** Graduate Research Assistanship for PhD study at University of Louisville (under supervision of Dr. Aly A. Farag).
- 2005-2007:** Graduate Research Assistanship for Master study at University of South Alabama(under supervision of Dr. Mohamed S. Alam).
- 2000-2005:** Full Scholarship to include all tuition and fees waived by Fatih University.

PROJECTS

- "3D Human Spine Bone Segmentation and Analysis," supported by Image Analysis, Inc., in Columbia, KY, USA (2008-Present).
- "Automatic Kidney segmentation and early detection of rejections," (2007-2008).
- "Joint Wavelet Transform based Hyperspectral Image Processing" supported by Army Space and Missile Defense Commands (2006).
- "Automatic Target Recognition and Tracking" supported by Department of Defence. (2005-2006).
- Controlling Mitsubishi RV-2AJ Robot arm with C, PLC and Basic programs by using serial port in Fatih University (2005).
- AutoCAD Free Style Design Project in 2003.
- Controlling 6-axis Robot Arm by using C programming language, and 4-axis Robot by using Siemens S7-200 PLC.

ORGANIZATIONS & POSITIONS OF RESPONSIBILITY

- Secretary of Turkish American Association of Kentuck, non-profit organization (2008-present) (www.taak.us).
- Member of Institute of Electrical and Electronics Engineering (IEEE) Student Branch in Fatih University, Region 8 TURKEY Section, (2003-2005).
- Fatih University IEEE Student Branch, Vice President of Educational Programs, (2005).
- Fatih University IEEE Student Branch, Internet Seminars member of the coordinator team for IT Week in 2003, (2003).

MEMBERSHIPS

IEEE (<http://www.ieee.org>) Student member

References available upon request.