

M. Fatih Demirci

CONTACT INFORMATION

Dept. of Computer Science
Nazarbayev University
53 Kabanbay Batyr Ave., Office 7e424
Astana, 010000 Kazakhstan

Tel: +7 (7172) 694861
muhammed.demirci@nu.edu.kz

RESEARCH INTERESTS

Statistical and structural pattern recognition, computer vision, applied graph theory, image processing, deep learning.

EDUCATION

Drexel University, Philadelphia, USA

Ph.D. in Computer Science, December 2005

- Dissertation Topic: “Many-to-Many Feature Matching for Structural Pattern Recognition”
Advisor: Professor Ali Shokoufandeh

Drexel University, Philadelphia, USA

M.S., Computer Science, September 2002

Selcuk University, Turkey

B.S., Computer Engineering, June 1999

- Bachelor Degree Project: Recognition of simple shapes on 2D images

ACADEMIC EXPERIENCE

Nazarbayev University, Computer Science Department, Republic of Kazakhstan

Associate Professor

Aug, 2018 - present

TOBB University of Economics and Technology, Computer Engineering Department, Turkey

Associate Professor

Apr, 2013 - Sep, 2018

Assistant Professor

Aug, 2007 - Mar, 2013

Teaching undergraduate and graduate classes, performing research, advising students, and doing administrative work.

Utrecht University, Department of Information and Computing Sciences, The Netherlands

Postdoctoral Research Scientist

Feb, 2006 - July, 2007

Research on developing new algorithms to index into large database systems.

Drexel University, Computer Science Department, Philadelphia, USA

Graduate Research Assistant

June, 2002 - Dec, 2005

Ph.D. research and Ph.D. and Masters level coursework.

Instructor for Math foundations of computer science

Mar - June, 2004

Responsible for developing a term course including developing and presenting lectures, creating assignments, and grading.

Graduate Teaching Assistant

Mar, 2001 - Dec, 2005

Responsible for answering course-related questions, grading assignments, and assisting students in labs.

HONORS AND AWARDS

Best Ph.D. Dissertation Award in Engineering and Physical Sciences, Drexel University, 2006.
College of Engineering Graduate Student Research Award, Drexel University, 2004.
Honorable Mention, Drexel University Research Day, 2004

EXTERNAL GRANTS “Error-Tolerant Feature Matching”, PI, The Scientific and Technical Research Council of Turkey, 2014 - 2016 (TUBITAK 1001 Project).

“Graph-based Indexing and Matching for the Shape Recognition Problem”, PI, The Scientific and Technical Research Council of Turkey, 2010 - 2012 (TUBITAK Career Project).

“Skeletal Shape Abstraction and Learning Class Prototype”, PI, The Scientific and Technical Research Council of Turkey, Dec 2007 - Nov 2008 (TUBITAK 1002 Project).

PROFESSIONAL
EXPERIENCE

The Scientific and Technological Council of Turkey (TUBITAK), Ankara, Turkey

Executive Committee Member for Olympiads on Informatics **2011-2018**

Duties include teaching informatics olympiad materials, organizing summer and winter schools, selecting national informatics team, representing Turkey as the team leader/deputy team leader in Balkan Olympiads in Informatics (BOI) and International Olympiads in Informatics (IOI).

Advisory Committee Member for Electric, Electronics, and Informatics Group **2015-2017**

Moderator for panels evaluating scientific projects submitted to Tubitak.

Computer Engineering Dept, TOBB University, Ankara, Turkey

Vice Chairman

2010 - 2018

Teracity Software, Bursa, Turkey

Project Consultant

Mar, 2018 - Aug, 2018

Face recognition, age classification, and machine learning.

Akgun Software, Ankara, Turkey

Project Consultant

Jan, 2012 - Oct, 2013

Medical image processing and machine learning.

Anel Ar-Ge, Ankara, Turkey

Project Consultant

July, 2010 - July, 2011

Image processing and machine vision.

VIMS Lab., University of Delaware, Newark, DE, USA

Summer Intern

June, 1998 - August, 1998

Responsible for writing utilities for laser range data visualization using vis5D and vrml.

ASELSAN Electronic Industries Inc., Ankara, Turkey

Summer Intern

June, 1997 - August, 1997

Responsible for writing system utilities for an embedded system that makes it possible to calibrate special external devices using HP Visual Engineering Environment.

PUBLICATIONS

JOURNAL ARTICLES Y. Sirin and M.Fatih Demirci. 2D and 3D Shape Retrieval using Skeleton Filling Rate. Multimedia Tools and Applications, Volume 76, Issue 6, pp 7823-7848, 2017.

M. Akimaliev and M. Fatih Demirci. Improving Skeletal Shape Abstraction using Multiple Optimal Solutions. Pattern Recognition, Volume 48, Issue 11, pp 3504-3515, 2015.

M. Fatih Demirci. Retrieving 2D Shapes using Caterpillar Decomposition. Machine Vision and Applications, Volume 24, Issue 2, pp 435-445, 2013.

A. Shokoufandeh, Y. Keselman, M. Fatih Demirci, D. Macrini, and S. Dickinson. Many-to-many Feature Matching in Object Recognition: A Review of Three Approaches. *IET Computer Vision*, Volume 6, Issue 6, 2012.

M. Fatih Demirci. Graph-based Shape Indexing. *Machine Vision and Applications*, Volume 23, Number 3, pp 541-555, 2012.

M. Fatih Demirci, Y. Osmanlioglu, A. Shokoufandeh, S. Dickinson. Efficient Many-to-Many Feature Matching under the l_1 norm. *Computer Vision and Image Understanding (CVIU)*, Volume 115/7, August 2011, pp 976-983.

M. Fatih Demirci, Bram Platel, Ali Shokoufandeh, Luc Florack, Sven Dickinson. The Representation and Matching of Images using Top Points. *Journal of Mathematical Imaging and Vision (JMIV)*, Volume 35/2, pp 103-116, 2009..

M. Fatih Demirci, Ali Shokoufandeh, Sven Dickinson. Skeletal Shape Abstraction from Examples. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, Volume 31, Number 5, pp 944-952, 2009.

M. Fatih Demirci, Reinier H. van Leuken, Remco C. Veltkamp. Indexing through Laplacian Spectra. *Computer Vision and Image Understanding (CVIU)*, Vol. 110/3, 2008, pp 312-325.

M. Fatih Demirci, Ali Shokoufandeh, Yakov Keselman, Lars Bretzner, Sven Dickinson. Object Recognition as Many-to-Many Feature Matching. *International Journal of Computer Vision (IJCV)*, Vol. 69, No. 2, August 2006, pp 203-222.

Ali Shokoufandeh, Lars Bretzner, Diego Macrini, M. Fatih Demirci, Clas Jonsson, Sven Dickinson. The Representation and Matching of Categorical Shape. *Computer Vision and Image Understanding (CVIU)*, Vol. 103, 2006, pp 139-154.

OTHER
PEER-REVIEWED
JOURNAL
PUBLICATIONS

S.F. Adali, M. F. Demirci, A. M. Özbayoglu, "Automated Image Matching and New Readings for Cyrus the Great's 547 BC Campaign in the Nabonidus Chronicle (BM 35382 = ABC 7)" *Die Welt des Orients*, Volume 47, Issue 2, 153-185, 2017.

T.Can, O. Sigirci, O. Abul, and M. Fatih Demirci, Informatics Olympiads in Turkey: Team Selection and Training. *Olympiads in Informatics*, 9:225-232, 2015.

S.F.Adali, M. Fatih Demirci, M. Ozbayoglu, O. Ergin. Why the Names? Anubanini and His Clan in the Cuthaeon Legend. *Gephyra* 11, 15-28, 2014.

CONFERENCE
PAPERS

C.Calik and M.Fatih Demirci. Cifar-10 Image Classification with Convolutional Neural Networks For Embedded Systems. 15th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2018). Aqaba, Jordan, Oct 28-Nov. 1, 2018.

M.F. Aydogdu and M.Fatih Demirci. Age Classification Using an Optimized CNN Architecture. International Conference On Computing and Data Analysis (ICCD 2017). Lake Land, Florida, May 19-23 2017.

M.F. Aydogdu, V. Celik, M.F. Demirci. Comparison of Three Different CNN Architectures for Age Classification. 11th IEEE International Conference on Semantic Computing Workshop on Semantics for Engineering and Robotics. San Diego, California, January 30 - February 1, 2017.

B. Yildiz and M.Fatih Demirci. Distinctive Interest Point Selection for Efficient Near-duplicate Image Retrieval. IEEE Southwest Symposium on Image Analysis and Interpretation (SSIAI 2016). Santa Fe, New Mexico, March 6-8 2016.

- M.Fatih Demirci and S.Kacka. Object Recognition by Distortion-free Graph Embedding and Random Forest. 10th IEEE International Conference on Semantic Computing (ICSC 2016). Laguna Hills, California, February 3-5 2016.
- A.Boluk and M. Fatih Demirci. Shape Classification Based on Skeleton-Branch Distances. 10th International Conference on Computer Vision Theory and Applications (VISAPP 2015). Berlin, Germany, 11-14 March, 2015.
- Y.Gokcer, M. Fatih Demirci, M.Tan. Graph-based Pattern Recognition for Chemical Molecule Matching. 6th International Conference on Bioinformatics Models, Methods, and Algorithms. Lisbon, Portugal, 12-15 January, 2015.
- Y.Sirin and M. Fatih Demirci. Skeleton Filling Rate for Shape Recognition. 22nd International Conference on Pattern Recognition (ICPR 2014). Stockholm, Sweden, August 24-28, 2014.
- M.F.Aydogdu, M. Fatih Demirci, C.Kasnakoglu. Pipelining Harris Corner Detection with a Tiny FPGA for a Mobile Robot. IEEE International Conference on Robotics and Biomimetics (IEEE ROBOT 2013). Shenzhen, China, December 12-14, 2013.
- S.Uludag, M. Fatih Demirci, E.Dogdu, F.Aydos. Pedagogical Analysis and Multifaced Evaluation of an Engineering Co-op Program. The 43rd Annual Frontiers in Education Conference (FIE). Oklahoma City, Oklahoma, October 23-26, 2013.
- F.Aydos and M. Fatih Demirci. Class Representative Computation using Graph Embedding. 17th IAPR International Conference on Image Analysis and Processing (ICIAP). Naples, Italy, September 11-13, 2013. (Lecture Notes in Computer Science).
- V.B.Celen and M. Fatih Demirci. Fire Detection in Different Color Models. The 16th International Conference on Image Processing, Computer Vision, & Pattern Recognition (ICCV'12). Las Vegas, Nevada, July 16-19, 2012.
- M. Akimaliev and M. Fatih Demirci. Shape Abstraction through Multiple Optimal Solutions. 7th International Symposium on Visual Computing (ISVC11). Las Vegas, Nevada, September 26-28, 2011. (Lecture Notes in Computer Science, 2011, Volume 6939/2011, pp588-596)
- R. Ozcan, F. Orhan, M. Fatih Demirci, O. Abul. An Adaptive Smoothing Method for Sensor Noise in Augmented Reality Applications on Smartphones. 4th International ICST Conference on MOBILE Wireless MiddleWARE, Operating Systems, and Applications (Mobilware 2011). London, UK, June 22-24, 2011.
- F. Yilmaz, M. Fatih Demirci. Indexing Tree Structures through Caterpillar Decomposition. 17th Scandinavian Conference on Image Analysis (SCIA) 2011: 687-696. Ystad, Sweden, May 23-27, 2011. (Lecture Notes in Computer Science, Volume: 6688).
- M. Fatih Demirci. Efficient Shape Retrieval under Partial Matching. 20th IAPR International Conference on Pattern Recognition (ICPR). Istanbul, Turkey. August 23-26, 2010.
- M. Fatih Demirci, Y. Osmanlioglu. Many-to-Many Matching under the l_1 Norm. 15th International Conference on Image Analysis and Processing - ICIAP2009. Vietri sul Mare, Italy, September 8-11, 2009. (Lecture Notes in Computer Science, Volume 5716).
- M. Fatih Demirci, R. van Leuken, R. Veltkamp. Shape Indexing through Laplacian Spectra. International Workshop on Visual and Multimedia Digital Libraries - VMDL 2007. Modena, Italy, September 13-14, 2007, (*invited paper*).

A. Pinto, R. H. van Leuken, M. Fatih Demirci, F. Wiering, R. C. Veltkamp. Indexing Music Collections through Graph Spectra. 8th International Conference on Music Information Retrieval - ISMIR 2007. Vienna, Austria, September 23-27, 2007.

M. Fatih Demirci, R. van Leuken, R. Veltkamp. Shape Indexing through Laplacian Spectra. International Conference on Image Analysis and Processing - ICIAP 2007. Modena, Italy, September 13-14, 2007.

M. Fatih Demirci, R. van Leuken, R. Veltkamp. Matching Shape Graphs. 6th International Congress on Industrial and Applied Mathematics - ICIAM 2007. Zurich, July 16-20, 2007.

R. van Leuken, M. Fatih Demirci, V. Hodge, J. Austin, R. Veltkamp. Layout indexing for trademark images. ACM International Conference on Image and Video Retrieval - CIVR 2007. Amsterdam, July 9-11, 2007.

S. Dickinson, A. Shokoufandeh, Y. Keselman, M. Fatih Demirci, and D. Macrini. Object Categorization and the Need for Many-to-Many Matching. 27th DAGM - The Annual meeting of the German Association for Pattern Recognition. Vienna, Austria, August, 2005, (*invited paper*).

Nicu D. Cornea, M. Fatih Demirci, Deborah Silver, Ali Shokoufandeh, Sven J. Dickinson, Paul B. Kantor. 3D Object Retrieval using Many-to-Many Matching of Curve Skeletons. IEEE International Conference on Shape Modeling and Applications - SMI 2005. MIT, Boston, MA. June 15-17, 2005.

M. Fatih Demirci, C. Gomez, A. Shokoufandeh, W. Sun. Connectivity for Mass and Fluid Transport in Three-Dimensional Two-Phase Structures. 31th Annual Northeast Bioengineering Conference of the IEEE Engineering in Medicine and Biology: 178-179. Hoboken, NJ. April 2-3, 2005.

Connie Gomez, M. Fatih Demirci, Wei Sun, Ali Shokoufandeh. Unit Cell Analysis and Characterization of Three-Dimensional Two-Phase Tissue Scaffolds. 31th Annual Northeast Bioengineering Conference of the IEEE Engineering in Medicine and Biology: 166-167. Hoboken, NJ. April 2-3, 2005.

Bram Platel, M. Fatih Demirci, Ali Shokoufandeh, Luc Florack, Frans Kanters, Bart M. ter Haar Romeny, Sven J. Dickinson. Discrete Representation of Top Points via Scale Space Tessellation. 5th International Conference on Scale-Space 2005: 73-84. Hofgeismar, Germany. April 7-9, 2005. (Lecture Notes in Computer Science, Volume: 3459).

M. Fatih Demirci, Ali Shokoufandeh, Sven J. Dickinson, Yakov Keselman, Lars Bretzner. Many-to-Many Feature Matching Using Spherical Coding of Directed Graphs. The 8th European Conference on Computer Vision - ECCV (1) 2004: 322-335. Prague, May 11-14, 2004. (Lecture Notes in Computer Science, Volume: 3021).

Trip Denton, M. Fatih Demirci, Jeff Abrahamson, Ali Shokoufandeh, Sven J. Dickinson. Selecting Canonical Views for View-Based 3-D Object Recognition. 17th IAPR International Conference on Pattern Recognition - ICPR (2) 2004: 273-276. Cambridge, United Kingdom, August 23-26, 2004.

C. Gomez, M. Fatih Demirci, A. Shokoufandeh, W. Sun, W. Regli. Tissue Engineered Constructs: Connectivity Study for Three Dimensional Two-Phase Structures. 30th Annual Northeast Bioengineering Conference of the IEEE Engineering in Medicine and Biology: 132-133. Springfield, MA. April 17-18, 2004.

C. Gomez, M. Fatih Demirci, A. Shokoufandeh, W. Regli, W. Sun. Representation and Design of Heterogeneous Structures: Connectivity Study for 3D Tissue Engineered Constructs. 2004 National Science Foundation Design, Service and Manufacture and Industrial Innovation Grantees and Research Conference. Dallas, Texas. January 5-8, 2004.

M. Fatih Demirci, Ali Shokoufandeh, Yakov Keselman, Sven J. Dickinson, Lars Bretzner. Many-to-Many Matching of Scale-Space Feature Hierarchies Using Metric Embedding. 4th International Conference on Scale-Space 2003: 17-32. Isle of Skye, Scotland, UK. June 10-12, 2003. (Lecture Notes in Computer Science, Volume: 2695).

Yakov Keselman, Ali Shokoufandeh, M. Fatih Demirci, Sven J. Dickinson. Many-to-Many Graph Matching via Metric Embedding. IEEE Conference on Computer Vision and Pattern Recognition - CVPR (1) 2003: 850-857. Madison, Wisconsin. June 16-22, 2003.

BOOK CHAPTERS M.Fatih Demirci, A. Shokoufandeh, and S. Dickinson. Many-to-Many Graph Matching. Computer Vision, A Reference Guide , Springer, 2014, pp 472–477.

A. Shokoufandeh, Y. Keselman, M. Fatih Demirci, D. Macrini, S. Dickinson. Many-to-Many Feature Matching in Object Recognition, in: H. Christensen and H.-H. Nagel (eds.), Cognitive Vision Systems: Sampling the Spectrum of Approaches, Springer Lecture Notes in Computer Science, 2006, pp 107–125.

OTHER PUBLICATIONS C. Calik and M.Fatih Demirci. Evrimsel Sinir Aglari(CNN) ile Gömülü Sistemlerde Görüntü Sınıflandırması. 26th IEEE Signal Processing, Communications and Applications Conference (SIU). Izmir, May 2-5, 2018. (in Turkish).

B. Bardak, M. Fatih Demirci. Benzer Iceriklere Sahip Goruntuler arasindan Otomatik Goruntu Secimi. 25th IEEE Signal Processing, Communications and Applications Conference (SIU). Antalya, May 15-18, 2017. (in Turkish).

U. Ufuk, C. Demirpolat, M. Fatih Demirci. Uydu Goruntulerinin Dusuk Frekansli Bilesenlerinden Yuksek Hizli Bulut Tespiti. 25th IEEE Signal Processing, Communications and Applications Conference (SIU). Antalya, May 15-18, 2017. (in Turkish).

B. Yildiz, M. Fatih Demirci. Verimli Neredeyse-Ozdes Goruntu Tespitinde Belirgin Oznetelik Secimi. 24th IEEE Signal Processing, Communications and Applications Conference (SIU). Zonguldak, May 16-19, 2016. (in Turkish).

B. Cerit, A. Boluk, M. Fatih Demirci. Goruntu Cozunurlugunun Otomatik Cinsiyet ve Yas Sınıflandırmasındaki Etkisinin Analizi. 24th IEEE Signal Processing, Communications and Applications Conference (SIU). Zonguldak, May 16-19, 2016. (in Turkish).

A. Boluk, M. Fatih Demirci. Iskelet Kritik Noktalari ile Sekil Sınıflandırma. 24th IEEE Signal Processing, Communications and Applications Conference (SIU). Zonguldak, May 16-19, 2016. (in Turkish).

C. Mortas, M. Fatih Demirci, Z. Gurbuz, O. Erogul. Dijital Kamera ve Lazer Isareci Kullanılarak Goruntu Isleme Yontemiyle Yer Degistirmenin Olculmesi. 24th IEEE Signal Processing, Communications and Applications Conference (SIU). Zonguldak, May 16-19, 2016. (in Turkish).

Y. Sirin, M. Fatih DEMIRCI. 2b Ve 3b Icin Zenginlestirilmis Iskelet Noktalari ile Uzaklik Olcum Fonksiyonlari. 24th IEEE Signal Processing, Communications and Applications Conference (SIU). Zonguldak, May 16-19, 2016. (in Turkish).

Selim F. Adali, M. Fatih Demirci, A. Murat Ozbayoglu, Automated Comparison of Cuneiform Signs: Introducing SIFT (Scale Invariant Feature Transform). 61st Rencontre Assyriologique: Text and Image. The Département des sciences de l'Antiquité of the University of Geneva and the Abteilung für Vorderasiatische Archäologie of the University of Bern. June 22-26, 2015. (Poster).

Y. Sirin, M.Fatih Demirci. 3B Sekil Tanima: Zenginlestirilmis Iskelet Noktalari. 23rd IEEE Signal

Processing, Communications and Applications Conference (SIU). Malatya, May 16-19, 2015. (in Turkish).

A.Boluk, M.Fatih Demirci. Sekil Siniflandirma İçin Iskelet Ayrim Mesafeleri. 23rd IEEE Signal Processing, Communications and Applications Conference (SIU). Malatya, May 16-19, 2015. (in Turkish).

F. Aydos, M.Fatih Demirci. Genelleştirilmiş Çizge Gömme ve Sinif Temsilcisi Çikarma. 23rd IEEE Signal Processing, Communications and Applications Conference (SIU). Malatya, May 16-19, 2015. (in Turkish).

Y. Sirin, M. Fatih Demirci. Iskelet Doldurma Orani ile Verimli Sekil Tanima. 22nd IEEE Signal Processing, Communications and Applications Conference (SIU). Trabzon, April 23-25, 2014. (in Turkish).

S.F. Adali, M.Fatih Demirci, M.Ozbayoglu, M. Ucar. Towards the Automated Autograph and the Recognition of Cuneiform Signs: Preliminary Results. Law and (Dis)order in the Ancient Near East 59th Rencontre Assyriologique Internationale, Ghent University, July 15-19, 2013. (Poster).

Y. Sirin, M. Fatih Demirci. Nesne Tanima için Cember Doldurma Orani Tanimlayicisi. 21th IEEE Signal Processing, Communications and Applications Conference (SIU). Girne, Turkish Republic of Northern Cyprus, April 24-26, 2013. (in Turkish).

F. Aydos, M. Fatih Demirci. Cizge gomme ve Obekleme Kullanarak Sinif Temsilcisi Cikarma. 21th IEEE Signal Processing, Communications and Applications Conference (SIU). Girne, Turkish Republic of Northern Cyprus, April 24-26, 2013. (in Turkish).

B. Celen, M. Fatih Demirci. Yangin Tesbiti için Renk Uzaylarinin Karsilastirilmesi. 20th IEEE Signal Processing, Communications and Applications Conference (SIU). Fethiye, Turkey, April 18-20, 2012. (in Turkish).

M. Akimaliev, M. Fatih Demirci. Birden Fazla Optimal Cozum ile Sekil Ozeti Olusturma. 20th IEEE Signal Processing, Communications and Applications Conference (SIU). Fethiye, Turkey, April 18-20, 2012. (in Turkish).

F. Yilmaz, M. Fatih Demirci. Tirtil Ayrismasi ile Imge Indeksleme. 19th IEEE Signal Processing, Communications and Applications Conference (SIU). Antalya, Turkey, April 20-22, 2011. (in Turkish).

M. Fatih Demirci. Cizge Tabanlı Sekil Ozeti Olusturma. 17th IEEE Signal Processing, Communications and Applications Conference - (SIU). Antalya, Turkey, April 9-11, 2009. (in Turkish).

M. Fatih Demirci. Çoklu Eslemenin l1 Normunda Gerçekleştirilmesi. 16th IEEE Signal Processing, Communications and Applications Conference (SIU). Didim, Turkey, April 20-22, 2008. (in Turkish).

Nicu D. Cornea, M. Fatih Demirci. 3D Object Retrieval using Many-to-Many Matching of Reconstruction-based Curve Skeletons. Shape Retrieval Contest 2007: Partial Matching Track (SHREC). Special session of IEEE International Conference on Shape Modelling and Applications (SMI). Lyon, France, June 2007.

SUPERVISED
M.SC. AND PH.D.
STUDENTS

M. Fatih Aydogdu, PhD Candidate, 2015-present.

Serdar Kacka, PhD Candidate, 2015-present.

Caner Calik, PhD Candidate, 2018-present.

Caner Calik, Department of Computer Engineering, MS Thesis: Object Classification with Convolutional Neural Networks in Embedded Systems, 2016-2018.

Behnam Ojaghi, Department of Computer Engineering, MS Thesis: The Impact of Incapacitation of Multiple Critical Sensor Nodes on Wireless Sensor Network Lifetime, 2016-2017.

Yahya Sirin, Department of Computer Engineering, PhD Thesis: Efficient 2D and 3D Shape Retrieval through Enhanced Skeleton Points, 2011-2016.

Betul Cerit, Department of Computer Engineering, MS Thesis: Analysis of the Effect of Image Resolution on Automatic Gender and Age Classification, 2014-2016.

Yunus Gokcer, Department of Computer Engineering, MS Thesis: Graph-based Pattern Recognition For Chemical Molecule Matching, 2013-2015.

Marlen Akimaliev, Department of Computer Engineering, MS Thesis: Shape Abstraction through Multiple Optimal Solutions, 2010-2012.

Ahmet Soran, Department of Computer Engineering, MS Thesis: Finding Graph Medians using Graph Embedding Techniques, 2010-2012.

Asim Yilmaz, Department of Computer Engineering, MS Thesis: Experimental Analysis of Different Studies for Pedestrian Detection, 2011-2012.

Caner Erdem, Department of Computer Engineering, MS Thesis: Many-to-Many Feature Matching under the ℓ_∞ Norm for Object Recognition, 2009-2010.

M. Fatih Aydogdu, Department of Electrical and Electronics Engineering, MS Thesis: Simultaneous Localization and Mapping on an FPGA-based Robot with Stereo Vision, 2009-2010. (co-advisor)

Yusuf Osmanlioglu, Department of Computer Engineering, MS Thesis: Producing Three-Dimensional Facial Animation by Modifying Facial Expressions Emotionally and Improving the System with Image Matching, 2007-2009.

EXTERNAL PH.D. COMMITTEES

Mustafa Tanriverdi, Department of Information Management, Gazi University, Ph.D. thesis defence external committee member, September 2017.

Yerzhan Kerimbekov, Department of Computer Engineering, Gazi University, Ph.D. thesis defence external committee member, June 2017.

Anders BJORHOLM DAHL, Informatics and Mathematical Modelling, Technical University of Denmark, Ph.D. thesis defence external committee member, May 2009.

COMMUNITY SERVICE

Reviewer for industrial and academic projects for TUBITAK (2008-2018)

Program Committee Member, 24th International Conference on Pattern Recognition, 2018.

Program Committee Member, 23rd International Conference on Pattern Recognition, 2016.

Program Committee Member, 22nd International Conference on Pattern Recognition, 2014.

Program Committee Member, 21th International Conference on Pattern Recognition, 2012.

Program Committee Member, 20th International Conference on Pattern Recognition, 2010.

Program Committee Member, 19th International Conference on Pattern Recognition, 2008.

Program Committee Member, 2nd International Workshop on Pattern Recognition, 2017.

Program Committee Member, 1st International Workshop on Pattern Recognition, 2016.

Program Committee Member, IEEE Signal Processing, Communications and Appl. Conf., 2018.

Program Committee Member, IEEE Signal Processing, Communications and Appl. Conf., 2017.

Program Committee Member, IEEE Signal Processing, Communications and Appl. Conf., 2014.

Program Committee Member, IEEE Signal Processing, Communications and Appl. Conf., 2013.
 Program Committee Member, IEEE Signal Processing, Communications and Appl. Conf., 2012.
 Program Committee Member, The 12th Asian Conference on Computer Vision, 2014.
 Program Committee Member, The 11th Asian Conference on Computer Vision, 2012.
 Program Committee Member, The 10th Asian Conference on Computer Vision, 2010.
 Reviewer, Pattern Recognition Letters.
 Reviewer, Journal of Visual Communication and Image Representation Registration
 Reviewer, Pattern Recognition.
 Reviewer, IET Computer Vision.
 Reviewer, IEEE Transactions on Pattern Analysis and Machine Intelligence.
 Reviewer, Image and Vision Computing.
 Reviewer, The Visual Computer.
 Reviewer, Journal of Computers & Graphics.
 Reviewer, Computer Vision and Image Understanding.
 Reviewer, Journal of Computer Aided Design.
 Reviewer, The 9th Asian Conference on Computer Vision, 2009.
 Reviewer, 21th Chinese Control and Decision Conference, 2009.
 Reviewer, 2nd IFAC International Conf. on Intelligent Control Systems and Signal Processing, 2009.
 Reviewer, International Conference on Pattern Recognition, 2008.
 Reviewer, Computer Vision and Pattern Recognition, 2005.
 Reviewer, Deep Structure, Singularities and Computer Vision, 2005.
 Supervised undergraduate researcher, Spring 2005.
 Supervising research of entering Drexel undergraduate, Summer 2003.
 Talk Coordinator, Computer Science Graduate Student Council, Drexel University, 2004-2005.

- Duties included organizing and scheduling biweekly graduate student talks.

COURSES OFFERED Computer Vision(graduate)
 Image Processing and Understanding (undergraduate, graduate)
 Algorithm Design and Analysis (undergraduate, graduate)
 Artificial Intelligence (undergraduate, graduate)
 Programming Languages (undergraduate)
 Math Foundations of Computer Science (undergraduate)
 Computer Programming with C/C++/Java(undergraduate)
 Systems Programming (undergraduate)
 Introduction to Computer Engineering (undergraduate)
 Discrete Math (undergraduate)

COMPUTER SKILLS

- Languages: C, C++, Java, Maple, Matlab, Pascal, Html, Vtml, Unix system and network programming.
- Operating Systems: Unix/Linux, Windows.
- Packages: L^AT_EX, MS-Office.