

# Nazli Ikizler-Cinbis

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## RESEARCH INTERESTS

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Computer Vision (especially human activity and interaction recognition in videos and images, retrieval and semantic analysis of multimedia, language and vision) and Machine Learning (classification, learning in noisy and weakly supervised settings).

## EXPERIENCE

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### Associate Professor

May 2018 – Present

*Dept of Computer Engineering, Hacettepe University*

*Ankara, Turkey*

- Cofounder of Hacettepe University Computer Vision Research Lab (HUCVL)
- Currently supervising 6 PhD students
- Graduated 3 PhD and 3 Msc students.
- Teaching CMP719 Computer Vision, CMP722 Advanced Vision, BBM301 Programming Languages, BBM416 Introduction to Computer Vision, BBM418 Computer Vision Lab.

### Assistant Professor

March 2011 – May 2018

*Dept of Computer Engineering, Hacettepe University*

*Ankara, Turkey*

- Graduated 1 PhD and 7 MSc students (3 co-supervised)
- Taught BIL682 Artificial Intelligence, BIL339-BBM301 Programming Languages, BIL354-BBM471 Database Management Systems, BBM416 Introduction to Computer Vision, BIL719 Computer Vision, BIL713 Data Mining, BBM102 Introduction to Programming 2

### Post-doctoral Researcher

Sept 2008 – Sept 2010

*Boston University, Department of Computer Science*

*Boston, MA, USA*

- **Image Retrieval and Internet Vision:** Developed image retrieval methods for the purpose of collecting a large variety of images that can guide recognition in uncontrolled videos. We build a discriminative learning based incremental algorithm for effectively collecting and cleaning multi-modal data.
- **Unsupervised and Semi-supervised Learning:** Working on developing new clustering algorithms that can aid the retrieval of diverse data that will serve as a basis of training for classification algorithms. Specifically interested in Multiple Instance Learning algorithms.
- **Action Recognition In Still Images:** Developed feature representations that can effectively represent the human actions in still images. Human action recognition in still images is a considerably harder problem compared to actions in videos. The proposed features are able to cope with the clutter present in images, and able to identify foreground features that belong to the particular actions.
- **Action Recognition In YouTube Videos:** Applied action models automatically learnt from static images to uncontrolled videos by using pose-based action recognition paradigm.

### Post-doctoral Advisor

Sept 2008 – Sept 2010

*Boston University, Department of Computer Science*

*Boston, MA, USA*

- Guiding various MSc, PhD and undergraduate students in Image and Video Computing group.

### Visiting Research Scholar

Feb 2005 – June 2006

*University of Illinois at Urbana-Champaign, Department of Computer Science*

*Urbana, IL, USA*

- **Human activity recognition:** Developed a complete system for recognizing and retrieving complex composite human activities. This system is based on 3D modeling of the human body parts separately using a motion capture dataset, allowing us to span a wide range of activities. It includes novel algorithms for 2D-3D lifting, action and activity modeling with Hidden Markov Models and querying of video datasets with text input using finite state automata. Models learnt from motion capture dataset is transferred into the real world video data. No visual example is needed to query for a video and composition across time and across space is possible. The system is also invariant to change in viewpoints and different outfits. Application domains include complicated TV videos as well as complex human activity datasets and test results demonstrate the effectiveness of the approach.
- **Face recognition:** Worked in a project for improving face recognition in large scale datasets (e.g. TV videos) using multimodal information from text and speech transcripts. Project work included application of various pattern recognition techniques, kernel PCA, LDA, SVM and preprocessing steps for illumination changes.
- **Speech recognition:** Implemented a keyword spotting system for TV audio using a combination of generative (HMM) and discriminative models (SVM) over a challenging dataset in the presence of music and different (nonnative) speakers.

### Research Assistant

Sept 2004 – June 2008

*Bilkent University RETINA Vision Research Group*

*Ankara, Turkey*

- **Human action recognition:** Proposed a pose descriptor based on the orientations of rectangular regions of the human body. This pose descriptor is used effectively for action recognition with classification algorithms such as DTW and SVM. Results indicate significant performance over the state-of-the art datasets.
- **Face recognition and retrieval:** Implemented a system integrating multiple clues from video and text for improving the accuracy of people search in video. Face detection performance is improved using skin modeling and transcripts of video have been used for localization of people of interest in the videos.

### Research Assistant

Sept 2001 – Sept 2004

*Bilkent University Machine Learning Group*

*Ankara, Turkey*

- **Machine learning algorithms:** Developed cost-sensitive classification algorithms. Proposed a benefit maximization framework based on feature intervals classification. Application areas include medical and financial datasets.

### Teaching Assistant

Sept 2000 – Sept 2004, Aug 2006–May 2008

*Dept of Computer Science, Bilkent University*

*Ankara, Turkey*

- **Assisted following courses:** CS 461 Artificial Intelligence, CS 315 Programming Languages, CS 201 Fundamentals of Computer Science - 1, CS 101 Algorithms and Programming - 1, CS 102 Algorithms and Programming - 2.

## EDUCATION

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### PhD in Computer Engineering

Sep 2002–May 2008

*Dept of Computer Science, Bilkent University*

*Ankara, Turkey*

- Advisors: Pinar Duygulu-Sahin (Bilkent), David Forsyth (UIUC)

### MSc in Computer Engineering

Ankara, Turkey

*Dept of Computer Science, Bilkent University*

*Sep 2000–August 2002*

- Advisor: H. Altay Guvenir

### Bachelor of Science in Computer Science

Sep 1996–May 2000

*Dept of Computer Science, Bilkent University*

*Ankara, Turkey*

## PUBLICATIONS

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Conferences are important publication venues in computer vision. IEEE International Conference on Computer Vision (ICCV), IEEE Conference on Computer Vision and Pattern Recognition (CVPR) and European Conference on Computer Vision (ECCV) are the top three computer vision conferences with acceptance rates  $\leq 25\%$  and high impact factors (ICCV has a CiteSeer impact factor in the top 5% of *all computer science publications*).

### Journal Publications

1. Gokhan Tanisik, Cemil Zalluhoglu, **Nazli Ikizler-Cinbis**, Multi-stream Pose Convolutional Neural Networks for Human Interaction Recognition in Images, *Signal Processing: Image Communication*, 2021. (SCI)
2. Emre Boran, Aykut Erdem, **Nazli Ikizler-Cinbis**, Erkut Erdem, Pranava Madhyastha, Lucia Specia, Leveraging auxiliary image descriptions for dense video captioning, *Pattern Recognition Letters*, Volume 146, June 2021, Pages 70-76. (SCI)
3. Gokhan Yaliniz, **Nazli Ikizler-Cinbis**, Using independently recurrent networks for reinforcement learning based unsupervised video summarization, *Multimedia Tools and Applications*, 2021. (SCI)
4. Cemil Zalluhoglu, **Nazli Ikizler-Cinbis**, Collective Sports: A multi-task dataset for collective activity recognition, *Image and Vision Computing* Volume 94, February 2020. (SCI)
5. Cemil Zalluhoglu, **Nazli Ikizler-Cinbis**, Region Based Multi-Stream Convolutional Neural Networks for Collective Activity Recognition, *Journal of Visual Communication and Image Representation* Volume: 60, Pages: 170–179, April 2019. (SCI)
6. Aytac Cavent, **Nazli Ikizler-Cinbis**, Histogram of Sequences: A Novel Representation for Human Interaction Recognition, *IET Computer Vision* Volume: 12, Issue: 6, Pages: 844-854, September 2018. (SCI)
7. Shugao Ma, Jianming Zhang, Stan Sclaroff, **Nazli Ikizler-Cinbis**, Leonid Sigal, Space-Time Tree Ensemble for Action Recognition and Localization, *International Journal of Computer Vision*, Volume 126, Issue 2–4, pp 314 — 332, April 2018. (SCI)
8. Mert Kilickaya, Burak Kerim Akkus, Ruket Cakici, Aykut Erdem, Erkut Erdem, **Nazli Ikizler-Cinbis**, Data-driven Image Captioning via Salient Region Discovery, *IET Computer Vision*, Volume 11, Issue 6, p. 398 — 406, September 2017. (SCI)
9. Emine Gul Danaci and **Nazli Ikizler-Cinbis**, Low-level features for visual attribute recognition: An evaluation *Pattern Recognition Letters*, Volume 84, Pages 185–191, December 2016. (SCI-E)
10. Gokhan Tanisik, Cemil Zalluhoglu and **Nazli Ikizler-Cinbis**, Facial Descriptors for Human Interaction Recognition In Still Images, *Pattern Recognition Letters*, Volume 73, pp. 44 - 51, April 2016. (SCI-E)
11. R. Bernardi, R. Cakici, D. Elliott, A. Erdem, E. Erdem, **N. Ikizler-Cinbis**, F. Keller, A. Muscat, B. Plank, Automatic Description Generation from Images: A Survey of Models, Datasets, and Evaluation Measures, *Journal of Artificial Intelligence Research*, Volume 55, pp. 409-442, 2016. (SCI)

12. Fadime Sener and **Nazli Ikizler-Cinbis**, Two-person interaction recognition via spatial multiple instance embedding, *Journal of Visual Communication and Image Representation*, Volume 32, pp. 63 - 73, Oct 2015. (SCI-E)
13. Fadime Sener and **Nazli Ikizler-Cinbis**, Ensemble of multiple instance classifiers for image re-ranking, *Image and Vision Computing*, Volume 32, Issue 5, pp. 348 - 362, May 2014. (SCI)
14. **Nazli Ikizler-Cinbis** and S. Sclaroff, Web-based Classifiers for Human Action Recognition, *IEEE Transactions on Multimedia*, Volume 14, Issue 4, pp. 1031 – 1045, August 2012. (SCI)
15. **Nazli Ikizler** and Pinar Duygulu, Histogram of Oriented Rectangles: A New Pose Descriptor for Human Action Recognition, *Image and Vision Computing*, Volume 27, Issue 10, 2 September 2009, Pages 1515–1526. (SCI)
16. **Nazli Ikizler** and David Forsyth, Searching for Complex Human Activities with No Visual Examples *International Journal of Computer Vision (IJCV)*, Vol. 80 No. 3, December 2008. (SCI)
17. H. Altay Guvenir, Narin Emeksiz, **Nazli Ikizler** and Necati Ormeci, Diagnosis of gastric carcinoma by classification on feature projections, *Artificial Intelligence in Medicine*. Vol. 31, No. 3, (2004), pp. 231 - 240. (SCI)

### International Conference Publications

1. Yunus Can Bilge, M. Kerim Yucel, R. Gokberk Cinbis, **Nazli Ikizler-Cinbis**, Pinar Duygulu. Red Carpet to Fight Club: Partially-supervised Domain Transfer for Face Recognition in Violent Videos, *WACV*, January 2021.
2. Yunus Can Bilge, **Nazli Ikizler-Cinbis**, R. Gokberk Cinbis, Zero-shot Sign Language Recognition: Can Textual Data Uncover Sign Languages?, *30th British Machine Vision Conference (BMVC)*, Cardiff, United Kingdom, September 2019.
3. Berkan Demirel, R. Gokberk Cinbis, **Nazli Ikizler-Cinbis**, Image Captioning with Unseen Objects, *30th British Machine Vision Conference (BMVC)*, Cardiff, United Kingdom, September 2019.
4. Berkan Demirel, R. Gokberk Cinbis, **Nazli Ikizler-Cinbis**, Learning Visually Consistent Label Embeddings for Zero-Shot Learning, *IEEE International Conference on Image Processing (ICIP)*, Taipei Taiwan, September 2019.
5. Arif Akar, **Nazli Ikizler-Cinbis**, Mask Guided Fusion for Group Activity Recognition in Images, *20th International Conference on Image Analysis and Processing (ICIAP)*, Trento, Italy, September 2019.
6. Semih Yagcioglu, Aykut Erdem, Erkut Erdem, **Nazli Ikizler-Cinbis**, RecipeQA: A Challenge Dataset for Multimodal Comprehension of Cooking Recipes, *Conference on Empirical Methods in Natural Language Processing (EMNLP 2018)*, Brussels, Belgium, October 2018.
7. Berkan Demirel, R. Gokberk Cinbis, **Nazli Ikizler-Cinbis**, Zero-shot Object Detection by Hybrid Region Embedding, *British Machine Vision Conference (BMVC)*, Newcastle Upon Tyne, England, September 2018.

8. Berkan Demirel, R. Gokberk Cinbis, **Nazli Ikizler-Cinbis**, Attributes2Classname: A discriminative model for attribute-based unsupervised zero-shot learning, *International Conference on Computer Vision (ICCV)*, Venice, October 2017.
9. Mert Kilickaya, Aykut Erdem, **Nazli Ikizler-Cinbis**, and Erkut Erdem, Re-evaluating Automatic Metrics for Image Captioning, In Proc of the 15th Conference of the European Chapter of the Association for Computational Linguistics (EACL 2017), April 2017.
10. Mert Kilickaya, **Nazli Ikizler-Cinbis**, Erkut Erdem and Aykut Erdem, Leveraging Captions in the Wild to Improve Object Detection, In Proc of 5th Workshop on Vision and Language (VL'16), pages 29-38, Berlin, Germany, August 2016.
11. Cemil Zalluhoglu and **Nazli Ikizler-Cinbis**, Counting People in Crowded Scenes via Detection and Regression Fusion, In *13th International Conference, ICIAR 2016*, Póvoa de Varzim, Portugal, July 13-15, 2016. Also published in Lecture Notes in Computer Science(LNCS), 2016, Volume 9730, 309-317.
12. Shugao Ma, Jianming Zhang, **Nazli Ikizler-Cinbis** and Stan Sclaroff, Action Recognition and Localization by Hierarchical Space-Time Segments, In *Proceedings of the IEEE International Conference on Computer Vision (ICCV)*, Sydney, Australia, 2013.
13. Fadime Sener, Cagdas Bas and **Nazli Ikizler-Cinbis**, On Recognizing Actions in Still Images via Multiple Features, In *1st Workshop on Action Recognition and Pose Estimation in Still Images, held in conjunction with European Conference on Computer Vision(ECCV 2012)*, Florence, Italy, October 2012. Also published in Lecture Notes in Computer Science(LNCS), 2012, Volume 7585/2012, 263-272.
14. Shugao Ma, Stan Sclaroff and **Nazli Ikizler-Cinbis**, Unsupervised Learning of Discriminative Relative Visual Attributes, In *2nd International Workshop on Parts and Attributes, held in conjunction with European Conference on Computer Vision(ECCV 2012)*, Florence, Italy, October 2012. Also published in Lecture Notes in Computer Science(LNCS), 2012, Volume 7585/2012, 61-70.
15. **Nazli Ikizler-Cinbis** and Stan Sclaroff, Object, Scene and Actions: Combining Multiple Features for Human Action Recognition, In *11th European Conference on Computer Vision(ECCV 2010)*, Crete, Greece, September 2010. Also published in Lecture Notes in Computer Science(LNCS), 2010, Volume 6311/2010, 494-507.
16. **Nazli Ikizler-Cinbis** and Stan Sclaroff, Object Recognition and Localization via Spatial Instance Embedding, In *20th International Conference on Pattern Recognition(ICPR 2010)*, Istanbul, Turkey, August 2010.
17. **Nazli Ikizler-Cinbis**, R. Gokberk Cinbis and Stan Sclaroff, Learning Actions From The Web, In *International Conference on Computer Vision(ICCV 2009)*, Kyoto, Japan, September 2009.
18. **Nazli Ikizler**, R. Gokberk Cinbis and Pinar Duygulu, Human Action Recognition With Line and Flow Histograms In *19th International Conference on Pattern Recognition(ICPR 2008)*, Tampa, FL, December 2008.
19. **Nazli Ikizler**, R. Gokberk Cinbis, Selen Pehlivan and Pinar Duygulu, Recognizing Actions in Still Images In *19th International Conference on Pattern Recognition(ICPR 2008)*, Tampa, FL, December 2008.

20. **Nazli Ikişler** and Pinar Duygulu, Human Action Recognition Using Distribution of Oriented Rectangular Patches *2nd Workshop on Human Motion Understanding, Modeling, Capture and Animation held in conjunction with Eleventh IEEE International Conference on Computer Vision (ICCV 2007)*, Rio de Janeiro, Brazil, October 2007. Also published in Lecture Notes in Computer Science (LNCS), Volume 4814/2007.
21. **Nazli Ikişler** and David Forsyth, Searching Video for Complex Activities with Finite State Models In *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2007)*, Minneapolis, USA, June 2007.
22. **Nazli Ikişler** and Pinar Duygulu, Person Search Made Easy In *Proceedings of The Fourth International Conference on Image and Video Retrieval (CIVR)*, Singapore, July 20-22, 2005. Also published in Lecture Notes in Computer Science (LNCS), Volume 3568/2005
23. **Nazli Ikişler** and H. Altay Guvenir. Maximizing Benefit of Classifications Using Feature Intervals, In *Proceedings of Seventh International Conference on Knowledge-Based Intelligent Information & Engineering Systems (KES 2003)*, Lecture Notes in AI (LNAI), Springer-Verlag, Oxford, United Kingdom, September 2003.

## National Conference Publications

1. Anil Atvar, **Nazli Ikişler-Cinbis**, Classification of human poses and orientations with deep learning, *26. IEEE Signal Processing and Communications Applications Conference (SIU)*, Izmir, May 2018.
2. Yunus Can Bilge, Fikret Kaya, **Nazli Ikişler-Cinbis**, Ufuk Celikcan, Hayri Sever: Anomaly detection using improved background subtraction. *25. IEEE Signal Processing and Communications Applications Conference (SIU)*, Antalya, May 2017.
3. Cagdas Bas, Cemil Zalluhoglu, **Nazli Ikişler-Cinbis**, Using deep multiple instance learning for action recognition in still images, *25. IEEE Signal Processing and Communications Applications Conference (SIU)*, Antalya, May 2017.
4. B. Demirel, R. G. Cinbis, **Nazli Ikişler-Cinbis**, Visual Saliency Estimation via Attribute Based Classifiers and Conditional Random Field (Nitelik Tabanlı Sınıflandırıcılar ve Kosullu Rastgele Alan ile Dikkat Çeken Görsel Bölge Tespiti) (in Turkish), *24. IEEE Signal Processing and Communications Applications Conference (SIU)*, Zonguldak, May 2016. **third place in Alper Atalay Best Student Paper Award**
5. M. E. Unal, B. Citamak, S. Yagcioglu, A. Erdem, E. Erdem, **N Ikişler-Cinbis**, R. Cakici, TasvirEt: Görüntülerden Otomatik Türkçe Açıklama Oluşturma İçin Bir Denektaş Veri Kümesi (TasvirEt: A Benchmark Dataset for Automatic Turkish Description Generation from Images)(in Turkish), *24. IEEE Signal Processing and Communications Applications Conference (SIU)*, Zonguldak, May 2016. **first place in Alper Atalay Best Student Paper Award**
6. E. Ekiz, **N. Ikişler-Cinbis**, A Multiple Region Selection Based Approach for Scene Recognition (Sahne Tanima için Çoklu Alan Secimi Tabanlı Bir Yaklaşım) (in Turkish), *23. IEEE Signal Processing and Communications Applications Conference (SIU)*, Malatya, April 2015.
7. E. G. Danaci, **N. Ikişler-Cinbis**, A Comparison of Low-level Features for Visual Attribute Recognition (Görsel Nitelik Oğrenmede Alt-Düzey Özniteliklerin Karşılaştırılması)(in Turkish),

23. *IEEE Signal Processing and Communications Applications Conference (SIU)*, Malatya, April 2015.

8. M. Kilickaya, E. Erdem, A. Erdem, **N. İkizler-Cinbis**, R. Cakici, Data-driven Image Captioning with Meta-class Based Retrieval (Meta-Class Tabanlı Getirme ile Veriye Dayalı İmge Altyazılama)(in Turkish), *22. IEEE Signal Processing and Communications Applications Conference (SIU)*, Northern Cyprus, April 2014.
9. Gokhan Tanisik, Oguzhan Guclu and **Nazli İkizler-Cinbis**, Recognizing Human Actions in Images Using Segment and Contour Features (Bolut ve Kontur Ozniteliklerini Kullanarak Imgelerdeki İnsan Hareketlerini Tanima)(in Turkish), In *21. IEEE Signal Processing and Communications Applications Conference (SIU)*, Northern Cyprus, April 2013.
10. Cagdas Bas and **Nazli İkizler-Cinbis**, Comparison of Clustering Methods for Pose Based Video Summarization (Poz Tabanlı Video Özetleme İcin Kumeleme Yontemlerinin Karsilastirilmesi)(in Turkish), In *21. IEEE Signal Processing and Communications Applications Conference (SIU)*, Northern Cyprus, April 2013.
11. Fadime Sener, Nermin Samet, Pinar Duygulu, **Nazli İkizler-Cinbis**, Recognizing Human Actions From Noisy Videos via Multiple Instance Learning (Gurultu İceren Videolardan İnsan Hareketlerinin Çoklu Örnekle Öğrenme ile Tanınması) (in Turkish), In *Proceedings of Signal Processing and Communications Applications Conference (SIU)*, April 2013.
12. Aytac Cavent, **Nazli İkizler-Cinbis**, Recognition of complex human activities by using sequential pyramid matching (Karmaşık İnsan Hareketlerinin Sırasal Piramit Eşleşmesi İle Tanınması)(in Turkish), *Signal Processing and Communications Applications Conference (SIU)*, April 2012.
13. Fadime Sener, **Nazli İkizler-Cinbis**, Pinar Duygulu, Multiple instance learning for re-ranking of web image search results (Görsel Arama Sonuçlarının Çoklu Örnekle Öğrenme Yöntemiyle Yeniden Sıralanması)(in Turkish), *Signal Processing and Communications Applications Conference (SIU)*, April 2012.
14. Sare Gul Sevil, Hilal Zitouni, **Nazli İkizler**, Derya Ozkan, Pinar Duygulu, Resim Arama Sonuçlarının Çizge Tabanlı bir Yöntemle Yeniden Sıralanması (in Turkish), In *Proceedings of IEEE 16. Sinyal İşleme, İletişim ve Uygulamaları Kurultayı (SIU 2008)*, Didim, Turkey, April 20-22, 2008.
15. **Nazli İkizler** and Pinar Duygulu, Haber Videoları için Yüz Bulma Yöntemlerinin İyileştirilmesi (in Turkish), In *Proceedings of IEEE 13. Sinyal İşleme ve İletişim Uygulamaları Kurultayı (SIU 2005)*, Kayseri, Turkey, May 16-18, 2005.
16. **Nazli İkizler** and H. Altay Guvenir. Feature Dependency in Benefit Maximization: A Case Study in the Evaluation of Bank Loan Applications, In *Proceedings of the Twelfth Turkish Symposium on Artificial Intelligence and Neural Networks (TAINN'2003)*, Canakkale, Turkey, July 2-4, 2003.
17. **Nazli İkizler** and H. Altay Guvenir. Mining Interesting Rules in Bank Loans Data, In *Proceedings of the Tenth Turkish Symposium on Artificial Intelligence and Neural Networks (TAINN'2001)*, Gazimagusa, T.R.N.C., June 2001.

## Technical Reports

1. **Nazlı İkizler**, Jai Vasanth, Linus Wong and David Forsyth, Finding Celebrities in Video, EECS Department University of California, Berkeley Technical Report No. UCB/EECS-2006-77, 2006.
2. **Nazlı İkizler**, Benefit Maximizing Classification Using Feature Intervals Technical Report BU-CE-0208, Bilkent University (2002).

## Theses

1. **Nazlı İkizler**, Understanding Human Motion: Recognition and Retrieval of Human Activities, PhD Thesis, Bilkent University, Turkey, May 2008.
2. **Nazlı İkizler**, Benefit Maximizing Classification Using Feature Intervals, MS Thesis, Bilkent University, Turkey, September 2002.

## THESES SUPERVISED

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- Gokhan Tanisik, PhD Thesis Title: “Recognition of Human Interactions in Still Images”, September 2020.
- Cemil Zalluhoglu, PhD Thesis Title: “Deep Learning Architectures for Collective Activity Recognition”, October 2019.
- Aytac Cavent, PhD Thesis Title: “Recognition of Human Interactions Using Histogram of Sequences”, September 2018.
- Emre Boran (Co-supervised with Aykut Erdem), Msc Thesis Title: “Video Captioning By Utilizing Auxiliary Data from Web Resources”, September 2020.
- Gokhan Yaliniz, Msc Thesis Title: “Unsupervised Video Summarization with Independently Recurrent Neural Networks and Multiple Rewards”, September 2019.
- Anil Atvar, Msc Thesis Title: “Recognition of Group Activities on Still Images Using Deep Learning ”, September 2018.
- Berkan Demirel (Co-supervised with R. Gokberk Cinbis), Msc Thesis Title: “Attribute based classifiers for image understanding”, January 2017.
- Mert Kilickaya (Co-supervised with Aykut Erdem), Msc Thesis Title: “Visual Importance: Modeling with applications to vision and language”, July 2016.
- Emine Gul Danaci, Msc Thesis Title: “Analyzing the effects of low-level features for attribute recognition”, September 2015.
- Ezgi Ekiz, Msc Thesis Title: “A Multi-instance Based System for Scene Recognition”, September 2015.
- Fadime Sener (Co-supervised with P. Duygulu) Msc Thesis Title: “Utilizing Multiple Instance Learning for Computer Vision Tasks”, July 2013.
- Seda Tankiz (Co-supervised with H. Sever) MSc Thesis Title : “Content-Based Video Copy Detection”, Sept 2012.



## PROJECTS

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**Recognition of Collective Activities via Deep Learning Techniques** Principal Investigator  
*01/04/2017–01/01/2020*

- Funded by the Scientific and Technological Research Council of Turkey (TUBITAK) The Support Program for Scientific and Technological Research Projects, Number 116E102, Budget: 252,530 TL.

**Learning Visual Recognition Models with Incomplete Supervision** Co-Investigator  
*04/2017–03/2020*

- Funded by the Scientific and Technological Research Council of Turkey (TUBITAK) The Support Program for Scientific and Technological Research Projects, Number 116E445 Budget: 334,273 TL.

**A Multimodal and Multilingual Framework for Video Captioning** Co-Investigator  
*06/2018–06/2020*

- TUBITAK and British Council - Newton-Katip Çelebi Fund Institutional Links Grant Programme (Award 217E054) Budget: 532,327 TL.

**Summarization Approaches Towards Interpreting Big Visual Data** Co-Investigator  
*09/2017–09/2020*

- TUBITAK 1003 - Primary Subjects RD Funding Program (Award Number: 116E685). Budget: 959,219 TL.

**City-Wide Video Surveillance System** Co-Investigator  
*09/2016–09/2019*

- TUBITAK 1007 - Public Institutions Research Funding Program (Award Number: 114G028). Budget: 9,414,296 TL.

**Learning-based Analysis and Recognition of Human Interactions** Principal Investigator  
*10/01/2012–10/01/2015.*

- Funded by Career Award from The Scientific and Technological Research Council of Turkey (TUBITAK) the Support Program for Scientific and Technological Research Projects, Number 112E149. Budget: 203,035 TL.

**Understanding Images and Visualizing Text: Semantic Inference** Co-Investigator  
*10/01/2013–10/01/2016.*

- Funded by The Scientific and Technological Research Council of Turkey (TUBITAK) The Support Program for Scientific and Technological Research Projects, Number 113E116. Budget: 318,112 TL.

**Human Action Based Video Summarization** Principal Investigator  
*01/01/2011–31/12/2011.*

- Funded by Google Research Awards Program, Budget: 75,000 USD.

## AWARDS AND HONORS

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- Google Research Award, December 2010, USA
- Outstanding Reviewer Award, International Conference of Computer Vision (ICCV) 2009, Kyoto, Japan
- Fellowship awarded by TUBITAK(Scientific and Technological Research Council of Turkey) for overseas doctoral research (2005 - 2006)
- Scholarship awarded by UIUC for visiting doctoral research (March - June 2006)
- Scholarship awarded by Max Planck Institute for Biological Cybernetics for attending Machine Learning Summer School 2003 (MLSS 2003)
- Full scholarship awarded by Bilkent University during graduate study (2000 - 2008)
- Full scholarship awarded by Bilkent University during undergraduate study (1996 - 2000)
- In Dean's List during undergraduate study, Bilkent University (Academic standing: High Honor) (1996 - 2000)
- Ranked 1st in graduation from MS Computer Science, Bilkent University (2002)
- Ranked 6th in graduation from Bsc Computer Science, Bilkent University (2000)
- Ranked 2nd in graduation from High School Kanuni Anatolian High School, Trabzon (1996)
- Ranked 3rd in BlackSea Region in TUBITAK Biology exams (1996)

## PROFESSIONAL ACTIVITIES

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- Associate Editor of
  - IET Computer Vision
- Area Chair of
  - Computer Vision and Pattern Recognition Conference (CVPR) 2018, 2020, 2021
- Reviewer of following journals
  - IEEE Transactions of Pattern Analysis and Machine Intelligence (TPAMI)
  - IEEE Transactions on Multimedia
  - Image and Vision Computing
  - Elsevier Computer Vision and Image Understanding
  - Pattern Recognition
  - IEEE Journal of Selected Topics in Signal Processing
  - IEEE Transactions on Circuits and Systems for Video Technology
  - Elsevier Journal of Computers and Industrial Engineering
- Program Committee of

- International Conference of Computer Vision - ICCV 2009, ICCV 2011, ICCV 2013, ICCV 2015, ICCV 2017, ICCV 2019
- International Conference of Computer Vision - CVPR 2010, CVPR 2011, CVPR 2012, CVPR 2013, CVPR 2014, CVPR 2015, CVPR 2016, CVPR 2017, CVPR 2019
- International Conference on Pattern Recognition - ICPR 2010, ICPR 2014
- European Conference on Computer Vision - ECCV 2010, ECCV 2012, ECCV 2014, ECCV 2016, ECCV 2018, ECCV 2020
- International Conference on Pattern Recognition Applications and Methods - 2012
- 3rd Workshop on Use of Context in Video Processing (UCVP) held in conj. with ICMI - 2011
- 1st Workshop on Action Recognition and Pose Estimation in Still images, held in conj. with ECCV 2012
- THUMOS: The First International Workshop on Action Recognition with a Large Number of Classes, held in conjunction with ICCV 2013
- Reviewer of following conferences
  - Asian Conference on Computer Vision - ACCV 2010, ACCV 2012
  - International Conference on Automatic Face and Gesture Recognition - FG 2013

## REFERENCES

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Available upon request