

1. Personal Information

Name Surname: Önsen Toygar
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2. Degrees Earned

Degree	Department	University	Year
PhD.	Computer Engineering	Eastern Mediterranean University, Gazimağusa, Northern Cyprus	2004
M.S.	Computer Engineering	Eastern Mediterranean University, Gazimağusa, Northern Cyprus	1999
BS	Computer Engineering	Eastern Mediterranean University, Gazimağusa, Northern Cyprus	1997

3. Professional Experience

Position	Department	University/Place	Year
Professor	Computer Engineering	Eastern Mediterranean University, Gazimağusa, Northern Cyprus	Aug.2021 - present
Associate Professor	Computer Engineering	Eastern Mediterranean University, Gazimağusa, Northern Cyprus	Oct.2015 – July 2021
Vice Chair	Computer Engineering	Eastern Mediterranean University, Gazimağusa, Northern Cyprus	Sept.2011-Jan.2013
Assistant Professor	Computer Engineering	Eastern Mediterranean University, Gazimağusa, Northern Cyprus	Sept.2007- Sept.2015
Visiting Assistant Professor	Computer Engineering	Eastern Mediterranean University, Gazimağusa, Northern Cyprus	Sept.2005-July 2007
Senior Instructor (Dr.)	Computer Engineering	Eastern Mediterranean University, Gazimağusa, Northern Cyprus	Sept.2004-July 2005
Research Assistant	Computer Engineering	Eastern Mediterranean University, Gazimağusa, Northern Cyprus	Mar. 1999- Sept. 2004
System Analyst	Computer Center	Eastern Mediterranean University, Gazimagausa, Northern Cyprus	Sept.1997 - Feb.1999

4. M.S./PhD. Thesis Supervision

PhD. Students:

1. Maryam Eskandari (PhD Thesis) : Fusion of Face and Iris Biometrics for Person Identity Verification, May 2014
2. Shima Izadpanahi (PhD Thesis) : Face Recognition Facial Age Classification Using Geometric Ratios and Wrinkle Analysis, June 2014.
3. Cem Kalyoncu (PhD Thesis) : Plant Leaf Classification, August 2015.
4. Mina Farmanbar (PhD Thesis): Efficient Multimodal Biometric Systems Using Palmprint and Face, February 2016.
5. Ayman I. M. Afaneh (PhD Thesis): Distinguishing Identical Twins Using Facial Images and Various Feature Extractors, February 2018.
6. Esra'a R. A. Alqaralleh (PhD Thesis): Person Recognition Through Profile Faces Using Ear Biometrics, March 2018.
7. Shahram Taheri (PhD Thesis): Fusion of Hand-crafted Descriptors with CNN-based Features for Facial Age Estimation, January 2019.
8. İmren Toprak (PhD Thesis): Spoof Detection on Ear Biometrics, December 2019.
9. Felix O. Babalola (PhD Thesis): A Multimodal Vein Database and Recognition System, July 2022.

MS Thesis Students:

1. Tiwuya H. Faaya (MS Thesis) : Recognition of Facial Expressions and Faces under Different Illumination Conditions and Occlusions, June 2008.
2. Hüseyin Sertbay (MS Thesis) : Effect of Aging on Face Recognition, June 2009.
3. Siamak Tafavogh (MS Thesis) : Facial Expression Recognition Using Holistic and Subpattern-based Approaches, June 2009.
4. Meryem Erbilek (MS Thesis) : Iris Recognition Using Partitioning-based and Subpattern-based Approaches, August 2009.
5. Maryam Eskandari (MS Thesis) : Recognition of Iris Images in the Presence of Noise, September 2009.
6. Fatemeh Mirzaei (MS Thesis) : Age Classification using Facial Feature Extraction, January 2011.
7. Hayman Salih Mohammed (MS Thesis): A Comparative Study on Palmprint Recognition, September 2014.
8. Cengiz Kandemir (MS Thesis): Impulse Noise Removal Using Unbiased Weighted Mean Filter, July 2015.
9. Parichehr Behjati Ardakani (MS Thesis): Gender Classification Using Local Binary Patterns Approach and Its Variants, September 2016.
10. Shaafan J. Othman (MS Thesis): Animal Classification Using Appearance-Based, Model-Based and Texture-Based Methods, November 2018.
11. Shvan A. Saeed (MS Thesis): Texture Classification Using Texture-based Feature Extraction Algorithms, November 2018.
12. Hussaini Habib (MS Thesis): Iris Anti-Spoofing Using Image Quality Measures, January 2019.
13. Suleiman Usman (MS Thesis): Plant Disease Classification Using Texture-based Methods Through Leaf Images,

May 2019.

14. Kevin C. Nwigbo (MS Thesis): Fruit Classification using Global and Local Descriptors, January 2020.
15. Mohammad Mehdi Pazouki (MS Thesis): Color-Based Face Recognition with Different Color Spaces and Image Quality Assessment, June 2020.
16. Ibrahim Isah (MS Thesis): Identification Of Plant Diseases Using Gray-Level And Color-Based Features Of Leaf Images, July 2020.
17. Oluwamuyiwa Q. Akinpelu (MS Thesis): Palmprint and Face Biometrics for Person Authentication Using Color Images, August 2020.
18. Abdolrahman Farshgar (MS Thesis): Fusion of Palmprint, Palm Vein and Dorsal Hand Vein for Personal Identification, September 2020.
19. Samaneh Sarfarazi (MS Thesis): Brain Tumor Classification Using Deep Learning Through MRI Images, July 2022.

MS Project Students:

1. Abdulhameed A. Abdulkareem (MS Project): Face Anti-Spoofing Using Image Quality Metrics, January 2018.
2. Mustapha Babayo Zaki (MS Project): Semantic Image Inpainting, December 2020.
3. Muhammad Abba Ismaila (MS Project): Synthesized Iris Detection Using Image Quality Assessment, June 2021.
4. John Akinkunle Katende (MS Project): Gender Recognition Via Voice Using Logistic Regression, June 2022.

5. Reviews/Citations

1. Top Peer Reviewer in the Global Peer Review Awards 2019, powered by Publons - Web of Science (Top 1% of reviewers in Cross-Field).

2. Reviewer in the following journals:

- IEEE Transactions on Information Forensics and Security, IEEE Access
- IET Biometrics, IET Computer Vision, IET Image Processing, IET Electronics Letters
- Springer Signal Image and Video Processing
- Wiley Expert Systems
- Elsevier Expert Systems with Applications, Elsevier Digital Signal Processing

3. Citation scores:

- Google Scholar: 934 citations, h-index: 17, i-10 index: 24 (accessed 17.08.2022)
- Web of Science: 473 citations, h-index: 13 (accessed 17.08.2022)

6. Teaching Experience

Undergraduate Level Courses Taught: Foundations of Computer Engineering, Introduction to Programming, Fundamentals of Computing, Algorithms and Programming, Programming Fundamentals, Object-Oriented Programming, Introduction to Image Processing.

Graduate Level Courses Taught: Biometrics, Computer Vision, Digital Forensics

7. List of Publications

Book Chapter:

1. Önsen Toygar, Esraa Alqaralleh and Ayman Afaneh, "Person Identification Using Multimodal Biometrics Under Different Challenges", *Human-Robot Interaction - Theory and Application*, edited by G. Anbarjafari and S. Escalera, ISBN 978-953-51-5611-6, <http://dx.doi.org/10.5772/intechopen.71667>, InTech, Chapter 5, pp.81-100, July 2018.

SCI and SCI Expanded Articles:

1. Emre Özbilge, Mehtap Köse Ulukök, Önsen Toygar and Ebru Ozbilge, "Tomato Disease Recognition Using a Compact Convolutional Neural Network," in *IEEE Access*, vol. 10, pp. 77213-77224, 2022, doi: 10.1109/ACCESS.2022.3192428.
2. Duygu Çelik Ertuğrul, Önsen Toygar and Neda Foroutan, A Rule Based Decision Support System for Aiding Iron Deficiency Management, *Health Informatics Journal*, Vol. 27(4), pp. 1-24, 2021, DOI: <https://doi.org/10.1177/14604582211066054>.
3. İmren Toprak and Önsen Toygar, Detection of Spoofing Attacks for Ear Biometrics Through Image Quality Assessment and Deep Learning, *Expert Systems with Applications*, Vol. 172, June 2021, DOI: <https://doi.org/10.1016/j.eswa.2021.114600>.
4. Felix O. Babalola, Yiltan Bitirim and Önsen Toygar, Palm Vein Recognition Through Fusion of Texture-based and CNN-based Features, *Signal Image and Video Processing*, Vol.15, No:3,

- pp.459-466, 2021, DOI: 10.1007/s11760-020-01765-6.
5. Önsen Toygar, Felix O. Babalola, Yiltan Bitirim, "FYO: A Novel Multimodal Vein Database with Palmar, Dorsal and Wrist Biometrics", IEEE Access, Vol.8, Issue 1, pp. 82461-82470, April 2020, DOI: 10.1109/ACCESS.2020.2991475.
 6. İmren Toprak and Önsen Toygar, Ear Anti-Spoofing Against Print Attacks Using Three-Level Fusion of Image Quality Measures, Signal Image and Video Processing, DOI: 10.1007/s11760-019-01570-w, Vol.14, Issue 2, pp.417-424, March 2020.
 7. Önsen Toygar, Esraa Alqaralleh and Ayman Afaneh, On The Use of Ear and Profile Faces for Distinguishing Identical Twins and Non-Twins, Expert Systems, DOI: 10.1111/exsy.12389 (accepted in February 2019)
 8. Joosep Hook, Fatemeh Noroozi, Önsen Toygar and Gholamreza Anbarjafari, "Automatic speech based emotion recognition using paralinguistics features" Bulletin of the Polish Academy of Sciences: Technical Sciences, Vol. 67, no.3, pp.479-488, June 2019.
 9. Shahram Taheri and Önsen Toygar, Integrating Feature Extractors for the Estimation of Human Facial Age, Applied Artificial Intelligence, DOI: 10.1080/08839514.2019.1577009, Vol.33, Issue:5, pp. 379-398, April 2019.
 10. Shahram Taheri and Önsen Toygar, Multi-Stage Age Estimation Using Two Level Fusions of Handcrafted and Learned Features on Facial Images, DOI: 10.1049/iet-bmt.2018.5141, IET Biometrics, Vol.8, Issue 2, pp. 124-133, March 2019.
 11. Shahram Taheri and Önsen Toygar, On The Use of DAG-CNN Architecture For Age Estimation with Multi-stage Features Fusion, DOI: 10.1016/j.neucom.2018.10.071, Neurocomputing, Vol.329, pp. 300-310, February 2019.
 12. Önsen Toygar, Esraa Alqaralleh and Ayman Afaneh, Symmetric Ear and Profile Face Fusion for Identical Twins and Non-Twins Recognition, Signal, Image and Video Processing, DOI: 10.1007/s11760-018-1263-3, Vol.12, Issue.6, pp. 1157-1164, September 2018.
 13. Esraa Alqaralleh and Önsen Toygar, Ear Recognition Based on Fusion of Ear and Tragus Under Different Challenges, International Journal of Pattern Recognition and Artificial Intelligence, DOI: 10.1142/S0218001418560098, Vol. 32, No. 09, pp. 1856009-1- 1856009-10, September 2018.
 14. Shahram Taheri and Önsen Toygar, Animal Classification Using Facial Images with Score-level Fusion, IET Computer Vision, DOI: 10.1049/iet-cvi.2017.0079, Vol. 12, Issue 5, p. 679 –

685, August 2018.

15. Ayman Afaneh, Fatemeh Noroozi and Önsen Toygar, Recognition of Identical Twins Using Fusion of Various Facial Feature Extractors, *EURASIP Journal on Image and Video Processing*, Vol. 2017:81, pp.1-14, 2017.
16. Mina Farmanbar and Önsen Toygar, Spoof Detection on Face and Palmprint Biometrics, *Signal, Image and Video Processing*, Vol.11, Issue:7, pp. 1253-1260, October 2017.
17. Cem Kalyoncu and Önsen Toygar, GTCLC: A Novel Leaf Classification Method Using Multiple Descriptors, *IET Computer Vision*, Volume 10, Issue 7, pp. 700 – 708, October 2016.
18. Mina Farmanbar and Önsen Toygar, Feature Selection for the Fusion of Face and Palmprint Biometrics, *Signal, Image and Video Processing*, Vol.10, Issue:5, pp. 951-958, July 2016.
19. Cengiz Kandemir, Cem Kalyoncu and Önsen Toygar, A Weighted Mean Filter with Spatial-Bias Elimination for Impulse Noise Removal, *Digital Signal Processing*, Vol. 46, pp. 164-174, November 2015.
20. Mina Farmanbar and Önsen Toygar, A Hybrid Approach for Person Identification Using Palmprint and Face Biometrics, *International Journal of Pattern Recognition and Artificial Intelligence*, Vol. 29, No.6, pp.1556009-1-1556009-15, September 2015.
21. Maryam Eskandari and Önsen Toygar, Selection of Optimized Features and Weights on Face-Iris Fusion Using Distance Images, *Computer Vision and Image Understanding*, Vol. 137, pp. 63-75, August 2015.
22. Cem Kalyoncu and Önsen Toygar, Geometric Leaf Classification, *Computer Vision and Image Understanding*, Vol. 133, pp. 102–109, April 2015.
23. Maryam Eskandari and Önsen Toygar, Fusion of Face and Iris Biometrics Using Local and Global Feature Extraction Methods, *Signal, Image and Video Processing*, Vol.8, Issue:6, pp. 995-1006, 2014.
24. Maryam Eskandari, Önsen Toygar and Hasan Demirel, Feature Extractor Selection for Face-Iris Multimodal Recognition, *Signal, Image and Video Processing*, Vol.8, Issue:6, pp. 1189-1198, 2014.
25. Shima Izadpanahi and Önsen Toygar, Human Age Classification with Optimal Geometric Ratios and Wrinkle Analysis, *International Journal of Pattern Recognition and Artificial Intelligence*, Vol.28, No.2, pp. 1456003-1 - 1456003-17, March 2014
26. Cem Kalyoncu, Önsen Toygar, Hasan Demirel, Interpolation-Based Impulse Noise Removal, *IET Image Processing*, Vol.7, No.8, pp.777-785, November 2013.
27. Maryam Eskandari, Önsen Toygar and Hasan Demirel, A New Approach For Face-Iris

- Multimodal Biometric Recognition Using Score Fusion, *International Journal of Pattern Recognition and Artificial Intelligence*, Vol.27, No.3, May 2013
28. Önsen Toygar and Hakan Altınçay, Preserving Spatial Information and Overcoming Variations in Appearance for Face Recognition, *Pattern Analysis and Applications*, Vol.14, pp.67-75, 2011.
 29. Önsen Toygar and Adnan Acan, Multiple Classifier Implementation of a Divide-and-Conquer Approach Using Appearance-Based Statistical Methods for Face Recognition, *Pattern Recognition Letters*, Vol.25, pp. 1421-1430, 2004.
 30. Önsen Toygar and Adnan Acan, Boosting Face Recognition Speed with a Novel Divide-and-Conquer Approach, *Lecture Notes in Computer Science (LNCS)*, Vol. 3280, pp.430-439, 2004. (SCI-E in 2004)
 31. Önsen Toygar and Adnan Acan, Selection of Optimal Dimensionality Reduction Methods for Face Recognition using Genetic Algorithms, *Lecture Notes in Computer Science (LNCS)*, Vol. 3261, pp.472-481, 2004. (SCI-E in 2004)

International Journal Articles:

1. Felix O. Babalola, Önsen Toygar, Yiltan Bitirim, A Palm Vein Recognition Approach by Multiple Convolutional Neural Network Models, *European Journal of Science and Technology*, No:29, pp.237-242, December 2021. (doi:10.31590/ejosat.1016532)
2. Önsen Toygar and Adnan Acan , Recognition of Face Images via Overlapped and Non-overlapped Partitioning, *WSEAS Transactions on Signal Processing*, Vol. 2, No. 9, September 2006, pp. 1238-1247.
3. Önsen Toygar and Adnan Acan , Partitioning-based Face Recognition Using PCA, LDA and ICA, *WSEAS Transactions on Computers*, Vol. 4, No. 9, September 2005, pp. 1171-1178.

International Conference Papers:

1. Felix O. Babalola, John A. Katende, Yiltan Bitirim, Önsen Toygar, On The Use of Voice Biometrics for Gender Recognition, *The 14th International Scientific Research Congress (UBAK 2022) - Science and Engineering Sciences*, Ankara, Turkey (20 – 21 August 2022).
2. Felix O. Babalola, Abdulhameed A. Abdulkareem, Yiltan Bitirim, Önsen Toygar, Spoof Attack Detection in Face Recognition Using Image Quality Metrics, *The 14th International Scientific Research Congress*

- (UBAK 2022) - Science and Engineering Sciences, Ankara, Turkey (20 – 21 August 2022).
3. Önsen Toygar, Mehtap Köse Ulukök, Emre Özbilge, Plant Disease Identification Through Deep Learning, International Conference on Advanced Engineering, Technology and Applications (ICAETA-2021), İstanbul, Turkey (July 9-10, 2021).
 4. Shahram Taheri, Zahra Golrizkhatami, Önsen Toygar, Classification of Animal Faces Using A Novel Deep Learning Architecture, International Conference on Advanced Engineering, Technology and Applications (ICAETA-2021), İstanbul, Turkey (July 9-10, 2021).
 5. Felix O. Babalola, Önsen Toygar, Yıltan Bitirim, Wrist Vein Recognition by Fusion of Multiple Handcrafted Methods, 3rd International Congress on Human-Computer Interaction, Optimization and Robotic Applications (HORA2021), DOI: 10.1109/HORA52670.2021.9461367, Turkey (June 11-13, 2021).
 6. Yıltan Bitirim, Selin Bitirim, Duygu Çelik Ertuğrul and Önsen Toygar, An Evaluation of Reverse Image Search Performance of Google, 2020 IEEE 44th Annual Computers, Software, and Applications Conference (COMPSAC), Madrid, Spain (July 13-17, 2020).
 7. Hussaini Habib, İmren Toprak and Önsen Toygar, A Feature-Level Fusion Approach for Iris Anti-Spoofing Using Image Quality Assessment, 6th International Symposium on Engineering, Artificial Intelligence and Applications (ISEAIA2019), Girne, Northern Cyprus (March 6-8, 2019).
 8. Suleiman A. Usman, İmren Toprak and Önsen Toygar, Classification of Corn and Grape Plant Diseases Through Leaf Images, 6th International Symposium on Engineering, Artificial Intelligence and Applications (ISEAIA2019), Girne, Northern Cyprus (March 6-8, 2019).
 9. İmren Toprak and Önsen Toygar, Fusion of Full-Reference and No-Reference Anti-Spoofing Techniques for Ear Biometrics under Print Attacks, International Conference on Advanced Technologies, Computer Engineering and Science (ICATCES'18), Safranbolu, Turkey (May 11-13, 2018)
 10. Maryam Eskandari and Önsen Toygar, Score Level Fusion for Face-Iris Multimodal Biometric System, 28th International Symposium on Computer and Information Sciences (ISCIS2013), Paris, France (October 28-29, 2013)
 11. Maryam Eskandari and Önsen Toygar, Person Identification Using Face and Iris Multimodal Biometric System, The 2012 International Conference on Image Processing, Computer Vision and Pattern Recognition (ICCV2012), Nevada, USA (July 16-19, 2012)
 12. Shima Izadpanahi and Önsen Toygar, Geometric Feature Based Age Classification Using Facial Images, The IET Image Processing Conference (IPR2012), London, UK (July 3-4, 2012)
 13. Fatemeh Mirzaei and Önsen Toygar, Facial Age Classification Using Subpattern-based Approaches, The 2011 International Conference on Image Processing, Computer Vision and Pattern Recognition (ICCV2011), Nevada, USA (July 18-21, 2011)

14. Fatemeh Mirzaei and Önsen Toygar, Age Classification using Facial Feature Extraction on Female and Male Images, The 3rd International Conference on Digital Image Processing (ICDIP 2011), Chengdu, China (April 15-17, 2011).
15. Maryam Eskandari and Önsen Toygar, Effect of Eyelid and Eyelash Occlusions on Iris Images using Subpattern-based Approaches, 5th International Conference on Soft Computing, Computing with Words and Perceptions in System Analysis, Decision and Control (ICSCCW2009), September 2009, Gazimağusa, Northern Cyprus.
16. Önsen Toygar, Cem Ergün, Hakan Altınçay, Using Local Features Based Face Experts in Multimodal Biometrics Identification Systems, 5th International Conference on Soft Computing, Computing with Words and Perceptions in System Analysis, Decision and Control (ICSCCW2009), September 2009, Gazimağusa, Northern Cyprus.
17. Meryem Erbilek and Önsen Toygar, Recognizing Partially Occluded Irises Using Subpattern-based Approaches, 24th International Symposium on Computer and Information Sciences (ISCIS2009), September 2009, Güzelyurt, Northern Cyprus.
18. Meryem Erbilek and Önsen Toygar, Performance Analysis of Partitioning-based and Subpattern-based Approaches on Iris Recognition, The 9th *International Conference on Visualization, Imaging and Image Processing (VIIP 2009)*, July 2009, Cambridge, UK
19. Siamak Tafavogh and Önsen Toygar, Facial Expression Recognition with Subpattern-based Approaches, The 9th *International Conference on Visualization, Imaging and Image Processing (VIIP 2009)*, July 2009, Cambridge, UK
20. Hüseyin Sertbay and Önsen Toygar, Face Recognition in the Presence of Age Differences using Holistic and Subpattern-based Approaches, *WSEAS International Conference on Signal Processing (SIP 2009)*, May 2009, İstanbul, Turkey .
21. Meryem Erbilek and Önsen Toygar, Robustness of Subpattern-based Approaches to Occlusions on Iris Images, The 2009 International Conference on Image Processing, Computer Vision and Pattern Recognition (IPCV09), July 13-16, 2009, Nevada, USA
22. Siamak Tafavogh and Önsen Toygar, Recognizing Facial Expressions Using Subspace Linear Discriminant Analysis, The 2009 International Conference on Image Processing, Computer Vision and Pattern Recognition (IPCV09), July 13-16, 2009, Nevada, USA.
23. Tiwuya H. Faaya and Önsen Toygar, Illumination Invariant Face Recognition under Various Facial Expressions and Occlusions, International Conference on Image and Signal Processing (ICISP08), Lecture Notes in Computer Science (LNCS), July 1-3, 2008, Normandy, France
24. Tiwuya H. Faaya and Önsen Toygar, On Occlusion Robust, Illumination and Facial Expression

- Invariant Face Recognition, The 2008 International Conference on Image Processing, Computer Vision and Pattern Recognition (IPCV08), Nevada, USA, July 14-17, 2008.
25. Tiwuya H. Faaya and Önsen Toygar, Recognizing Faces under Facial Expression Variations and Partial Occlusions, The 7th WSEAS International Conference on Signal Processing (SIP'08), İstanbul, Turkey, May 27-29, 2008.
 26. Meryem Erbilek and Önsen Toygar, Reducing the Effect of Partial Occlusions on Iris Recognition, 3rd International Conference on Computer Vision Theory and Applications (VISAPP08), 22-25 January, 2008, Funchal, Madeira, Portugal.
 27. Önsen Toygar, Sensitivity Analysis of Partitioning-based Face Recognition Algorithms on Occlusions, in *Proceedings of the 6th WSEAS International Conference on Applications of Electrical Engineering*, pp. 21-27, İstanbul, Turkey, May 2007.
 28. Önsen Toygar and Adnan Acan, Overlapping on Partitioned Facial Images, 6th WSEAS International Conference on Signal, Speech and Image Processing (WSEAS SSIP'06), 22-24 September 2006, Lisbon, Portugal, pp.197-202.
 29. Önsen Toygar and Adnan Acan, Improved Recognition Performance of LDA- and ICA-based Face Recognition Using Vertically and Horizontally Partitioned Facial Images, 5th WSEAS International Conference on Signal, Speech and Image Processing (WSEAS SSIP'05), 17-19 August 2005, Corfu Island, Greece, pp.96-100.
 30. Önsen Toygar and Adnan Acan, An Analysis of Appearance-Based Statistical Methods and Autoassociative Neural Networks on Face Recognition, International Conference on Artificial Intelligence (IC-AI'03), 23-26 June 2003, Nevada, USA, pp. 292-298.

National Journal Articles:

1. Önsen Toygar and Adnan Acan, *Face Recognition Using PCA, LDA and ICA Approaches on Colored Images*, Journal of Electrical and Electronics Engineering (JEEE), İstanbul University, Vol.3, No.1, 2003, pp. 735-743.

National Conference Papers:

1. Önsen Toygar and Adnan Acan, *Face Recognition using Autoassociative Neural Networks : An Experimental Evaluation on the FERET Database*, 12th Turkish Symposium on Artificial Intelligence and Neural Networks (TAINN'03), 2-4 July 2003, Canakkale, Turkey, pp.734-743.
2. Önsen Toygar and Adnan Acan, *A Comparative Performance Analysis of PCA and LDA on Face Recognition Using Colored Images*, 11th Turkish Symposium on Artificial Intelligence and Neural Networks (TAINN'02), 20-21 June 2002, İstanbul, Turkey, pp.113-122.

3. Adnan Acan, Önsen Toygar and Mehtap Köse, *Performance of Reciprocal Translocation on the Set-Covering Problem*, 11th Turkish Symposium on Artificial Intelligence and Neural Networks (TAINN'02), 20-21 June 2002, Istanbul, Turkey, pp.209-218.
4. Önsen Toygar and Adnan Acan, *University Course Timetabling Using Genetic Algorithms*, 10th Turkish Symposium on Artificial Intelligence and Neural Networks (TAINN'01), 21-22 June 2001, Gazimağusa, T.R.N.C., pp.136-143.