

Dr. Ayşın Baytan Ertüzün

Professor of EE



[Boğaziçi University](#)
[Signal and Image Processing Laboratory \(BUSIM\)](#)
[Intelligent Systems Laboratory \(ISL\)](#)
[Department of Electrical and Electronic Engineering](#)

Contact Information

Work: Boğaziçi University
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Education

Ph.D. Electrical and Electronic Engineering, October 1989
Boğaziçi University, Istanbul, TURKEY

Thesis: “Modelling of Autoregressive Fields by Two-Dimensional Lattice Filters and Their Entropy Properties”,
Advisor: Prof. Erdal Panayırıcı

M.Eng Department of Electrical and Computer Engineering, January 1984
[McMaster University](#), Hamilton, Ontario, CANADA

Thesis: “Adaptive Equalization of Telephone Channels in Time and Frequency Domains”,
Advisor: Prof. K.M. Wong

B.S Electrical Engineering, June 1981
Boğaziçi University, Istanbul, TURKEY

Academic Positions

- Full Professor Boğaziçi University July 2006-
- Associate Professor Boğaziçi University April 1994-July 2006
- Associate Professorship title given by Higher Education Council (YÖK) Oct. 1992
- Assistant Professor Boğaziçi University Oct.1990-April 1994
- Instructor Boğaziçi University Feb.1990-Oct.1990
- Research Assistant Boğaziçi University May1988-Feb.1990
- Research and Teaching Assistant McMaster University Sept.1981-Sept.1984

Research Interests

- Bayesian source separation and estimation
- Particle filters
- Distributed signal processing
- Blind signal processing
- Independent component analysis
- Adaptive systems with applications to communications, image processing, and texture analysis
- Applications of wavelets and multiwavelets
- Higher order statistics

Subjects and Courses taught

Undergraduate Courses

EE 200	Electrical Production Methods and Graphics
EE 201	Electrical Circuits I
EE 202	Electrical Circuits II

EE 210	Electrical Engineering
EE 211	Principles of Electrical Engineering
EE 212	Principles of Electronic Engineering
EE 313	Probability for Electrical Engineers
EE 373	Signals and Systems
EE 374	Communication Engineering
EE 471	Communication Engineering I
EE 472	Communication Engineering II
EE 473	Introduction to Digital Signal Processing
EE 477	Digital Communications
EE 478	Introduction to Information Theory
EE 496	Special Topics (Digital Filters)*

Graduate Courses

EE 570	Spectral Analysis
EE 577(EE572)	Statistical Signal Analysis
EE 573	Digital Signal Processing
EE 671	Information Theory and Coding
EE 686(EE 670)	Adaptive Signal Processing
EE 694	Special Topics (Advance Adaptive Signal Processing)*
EE 583	Special Topics (Independent Component Analysis)*
EE 58A	Special Topics (Optimal Filtering in Signal Processing)*
EE 570	Subspace Methods for Signal Analysis*
EE 571	Bayesian Signal Processing?

* newly designed

Honors and Awards

- Academic Incentive Award, Higher Education Council (2018)
- Academic Incentive Award, Higher Education Council (2017)
- Academic Incentive Award, Higher Education Council (2016)
- Academic Incentive Award, Higher Education Council (2015)
- Boğaziçi University Academic Incentive Award (2011)
- Boğaziçi University Academic Incentive Award (2010)
- Boğaziçi University Academic Incentive Award (2009)
- Boğaziçi University Academic Incentive Award (2008)
- Boğaziçi University Academic Incentive Award (2007)
- Boğaziçi University Academic Incentive Award (2006)
- Boğaziçi University Academic Incentive Award (2005)
- Co-advisor (with E.E. Kuruoglu) on IEEE Best Student Paper Award, given by the *Organizing Committee of Signal Processing and Applications Conference*, for the paper titled “Zamanla Değişen Özbağlanımlı Cauchy Süreçlerinin Parçacık Süzgeçleri ile

Kestirimi”, *Proc. 12th IEEE-Signal Processing and Applications Conf. (IEEE-SIU 2005)*, May 16-18, 2005, Kayseri, Turkey.

- Boğaziçi University Academic Incentive Award (2002)
- Boğaziçi University Academic Incentive Award (2001)
- Boğaziçi University Academic Incentive Award (2000)
- Research Assistantship, Boğaziçi University (1988-1990)
- First Class Standing, Department of Electrical and Computer Engineering, McMaster University (1984)
- Research and Teaching Assistantships, McMaster University (1981-1984)
- Honor Student, Faculty of Engineering, Boğaziçi University, Turkey (1981)

Memberships and Professional Activities

- Member, [Editorial Board, Elsevier Signal Processing](#) (2011 -)
- Member, [IAPR – International Association of Pattern Recognition](#) (2003 -)
- Member, [Constitution and Bylaws Committee, IAPR](#) (2019 -)
- Member, [European Woman Rectors Association \(EWORA\)](#) (2017 -)
- Member, [Nominating Committee, IAPR](#) (2016 - 2018)
- Member, Liason Committee, [IAPR](#) (2013 - 2014)
- Member, Membership Committee, [IAPR](#) (2010 - 2012)
- Member, [IEEE](#) Signal Processing Society
- Member, [IEEE](#) Communications Society
- Member TOTIAD – Turkish Pattern Recognition and Image Understanding Society
- Member, Advisory Board of EMO Bilimsel Dergi (Scientific Journal of Electrical Engineering Chamber (in Turkish) (2016 -2019)
- Member, [IEICE](#) – The Institute of Electronics Information and Communication Engineers (2003 - 2007)
- General Chair, [IP 2019, International Conference on Managing Intellectual Property](#), Oct. 17-18, 2019, Istanbul Turkey.
- Organizer Committee Member
 - [ICPR 2014](#) – The 22nd International Conference on Pattern Recognition, Stockholm, Sweden, Aug. 24-28, 2014.
 - [SPAWC 2012](#) – The 13th IEEE International Workshop on Signal Processing Advances in Wireless Communications, Çeşme, June 17-20, 2012.
 - [ICPR 2010](#) – The 20th International Conference on Pattern Recognition, Istanbul, Turkey, Aug, 23-26, 2010.

- [ISPA 2007](#) – 5th International Symposium on Image and Signal Processing and Analysis, Istanbul, Turkey, September 27-29, 2007.
- [EMBC 2001](#) – 23rd Annual International Conference of IEEE Engineering in Medicine and Biology Society, Istanbul, Turkey, October 25-28, 2001.
- NSIP 99 –IEEE–EURASIP Workshop on Nonlinear Signal and Image Processing, Antalya, Turkey, June 20-23, 1999.
- Technical Committee Member
 - EUSIPCO 2005 – 13th European Signal Processing Conference, Antalya, Turkey, 4-8 September, 2005.
 - SIU – Sinyal İşleme ve Uygulamaları Kurultayı (National Conference Series) – 1996-2013)
- Referee (SCI-E Journals)
 - IEEE Transactions on Signal Processing
 - IEEE Signal Processing Letters
 - IEEE Transactions on Circuit and Systems Part II
 - IEEE Transactions on Image Processing
 - IEEE Transactions on Geoscience and Remote Sensing
 - Electronics Letters
 - Pattern Recognition
 - Image and Vision Computing
 - Signal, Image and Video Processing
 - Signal Processing - Elsevier Publications
 - EURASIP Journal on Advances in Signal Processing (EURASIP-JASP) former EURASIP Journal on Applied in Signal Processing
 - IEE Proceedings Vision, Image and Signal Processing
 - IET Image Processing
 - IET Signal Processing
 - International Journal on Pattern Recognition and Artificial Intelligence
 - Simulation Modelling, Practice and Theory
 - Machine Vision and Applications
- Referee (National Journals)
 - *TÜBİTAK Elektrik Dergisi*
 - Turkish Journal of Electrical Engineering & Computer Sciences
 - Anadolu University Journal
 - Gazi University Journal of Engineering and Architecture
 - Marmara University Journal of Science Institute

- Referee (Conferences): EUSIPCO, ICIP, ICPR, ELECO, SIU, MRCS
- Evaluator (Industrial Projects): TÜBİTAK-TEYDEP
- Consultant to Turkish textile industry

Educational Activities

- Member of the Curriculum Committee, Boğaziçi University, Department of Electrical and Electronic Engineering, 1993-present
- Member of the Ph. D. Qualifying Exam Committee, Boğaziçi University, Department of Electrical and Electronic Engineering, 2000-2005.

Administrative Activities

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|---|-----------|
| • Vice Rector responsible of research | 2016-2021 |
| • Head of the Executive Committee of Boğaziçi University Research Fund | 2012-2021 |
| • Member of the Executive Committee of Boğaziçi University Research Fund | 2006-2012 |
| • Head of the Committee on Intellectual Property | 2017-2021 |
| • Head of the Committee on Evaluation and Coordination of Research Centers | 2020-2021 |
| • Head of the Committee on Research Policy | 2016-2021 |
| • Head of the Advisory Board on Research Policy | 2016-2021 |
| • Head of the Committee on Open Science Open Access | 2020-2021 |
| • Head of the Executive Committee on Revolving Funds | 2016-2021 |
| • Member of the Committee on Evaluation of Intellectual and Industrial Property | 2016-2021 |
| • Assistant Director of Institute for Graduate Studies in Sciences and Engineering | 2002-2006 |
| • Member of Board of Institute for Graduate Studies in Sciences and Engineering | 2002-2006 |
| • Member of the Executive Committee of Institute for Graduate Studies in Sciences and Engineering | 2002-2006 |
| • Vice chairperson of the Department of Electrical and Electronic Engineering | 1998-2000 |

Invited Seminars and Short Courses

- “Data-Driven Methods in Defect Detection in Textile Images”, SSBA; 40th Anniversary 1976-2006, Uppsala, Sweden, March 14-16, 2016.
- “Tekstil Doku Hatalarının Sinyal İşleme Yöntemleriyle Sezimi”, Şirince, İzmir, April 17-19, 2015.
- “Durağan olmayan ve Gauss olmayan veya Seyrek Sinyallerin Bayesçi Ayırışımı”, EMO Akademik Kamp Sinyal ve Görüntü İşlemede Son Gelişmeler, Şirince, İzmir, May 17-20, 2012.
- “Bayesian Source Separation for Non-Stationary and Non-Gaussian or Sparse Processes”, Signal Processing Group, Electrical Engineering Technical University of Darmstadt, Darmstadt, Germany, September 2009.
- “Textile Fabric Defect Detection Using ICA with Insight into Human Vision System”, Information Systems Research Group, CNR-Pisa, Italy, November 2004.
- “Two-Dimensional Lattice Filters to Model Autoregressive Fields and Their Entropy Properties”, Florida Atlantic University, Electrical Engineering Department, Boca Raton, FL, January 1990.

Industrial Courses

- “Signals and their Representations, Sampling and Quantization, Adaptive Filters, Digital Modulation”, Turkish Electric Company, Istanbul, September, 1990.

Funded Projects

- Project Title: “İnsansız Hava Aracı Videolarında Çoklu Nesne Tespit ve Takibi”, 119E596 2020-2023, Funding agency: Turkish Scientific Research Council (TUBITAK), 524,240TL Investigator.
- Project Title: “Distributed Robust Detection with Application to Seismological Signal Processing”, 12A02P4, 2012-2014, Funding agency: Boğaziçi University Research Fund. 34,960 TL, Principal Investigator
- Project Title: “Türk Toplumunu İçin Elde Edilen Genetik Bilginin Web Ortamına Aktarımı ve İşlenmesi”, 09S106, 2009-2012. Funding agency: Boğaziçi University Research Fund.18,025 TL. Investigator.
- *Project Title:* “Telematik Araştırma Merkezi (TAM): Teleiletişim ve Enformatik Alanlarında Araştırmacı ve Akademisyen Yetiştirme Merkezi”, 2007-2010. Funding agency: Devlet Planlama Teşkilatı. DPT 2007K120610. 1,600,000 TL, Investigator.
- *Project Title:* “Gezgin Robotlarda İlgiye Dayalı Ortam Algılama, Hareket ve Koordinasyon”, 2007-2010. Funding agency: Turkish Scientific Research Council (TUBITAK). Investigator.

- *Project Title:* “Zaman Serisi Modelleme ile Bayeşçi Kaynak Ayrıştırması”, 107E050, 2007-2009. Funding agent: Turkish Scientific Research Council (TUBITAK). 143,530YTL, Primary investigator and director.
- *Project Title:* “Gezgin Robotlar ile Ortam Modelleme ve Tanıma”, 07A205, 2007-2008. Funding agency: Boğaziçi University Research Fund.18,025 YTL. Investigator.
- *Project Title:* “Applications of Source Separation in Communications, Image Processing and Geophysics”, 104E101, 2006-2008. Funding agent: Turkish Scientific Research Council (TUBITAK) 12,900 \$ and Consiglio Nazionale della Ricerche (CNR) 16,000 \$. Investigator.
- *Project Title:* “2. Jenerasyon Parça Taşıyıcı Robot Tasarım ve Gerçeklenmesi”, 05A202, 2005-2006. Funding agency: Boğaziçi University Research Fund.13,800 YTL. Investigator.
- *Project Title:* “İstatistiksel olarak Bağımlı Kaynakların Bayes Yöntemi ile Ayrıştırılması”, 04A201, 2004-2007. Funding agency: Boğaziçi University Research Fund. 2,125,000,000TL. Primary investigator and director.
- *Project Title:* “Sayısal Veri Analizinin Güncel Gelişmeleri Işığında Sismolojik Veri İşleçlerinin Yeniden Tasarımı Sistemi”, 2003-2007. Funding agency: Boğaziçi University Research Fund. 99,000,000,000 TL. Investigator.
- *Project Title:* “Applications of Independent Component Analysis for Communications, Image Processing and Geophysics”, 102E027, 2002-2004. Funding agent: Turkish Scientific Research Council (TUBITAK) 20,750 \$ and Consiglio Nazionale della Ricerche (CNR) 33,500 \$. 2002-2004. Investigator.
- *Project Title:* “Esnek Otomasyon ve Zeki İmalat Sistemleri Model Fabrikası”, 01S1007, 2002-2005. Funding agency: Boğaziçi University Research Fund. Investigator.
- *Project Title:* “Quality Control Automation of Textile Products by Artificial Vision”, TTGV-169, 1995-1997. Funding agent: Turkish Technology Development Fund. 15,500,000,000 TL. Investigator.
- *Project Title:* “Seismic Data Analysis to Identify the Earth Layers”, 93HA0214, 1993-1999. Funding agency: Boğaziçi University Research Fund 65,000,000TL. Primary investigator and director.

Guided Ph.D. Theses

- Bahri Maraş, “Real Time Object Detection, Classification and Tracking in Aerial Videos of Unmanned Air Vehicles” (Nafiz Arıca as co-advisor) (continuing)
- H. Bayram, “Multi-robot Navigation and Task Coordination”, 2007, (I. Bozma Aydın as co-advisor)
- O.D. Gençaga, “Sequential Bayesian Modeling of Non-Stationary Non-Gaussian Processes”, January 2007, (E. Ercan Kuruoğlu as co-advisor)
- M.C. Hendekli, “Development of Single and Multichannel 2-D Delta Domain Lattice Filter and Applications to Image Restoration”, August 2000.

Guided M.S. Theses

1. Umut Karabacak Mamıkoğlu, “Distributed Detection and Decision Fusion by Particle Filters”, Aug. 2014.
2. Alper Yeşilyurt, “Mobility Tracking Algorithms For Cellular Networks Based on Kalman Filtering”, Oct. 2010.
3. Abdullah Yakın, “Texture Defect Detection by using Particle Filters”, June 2010.
4. Sinan Yıldırım, “Bayesian Methods for Deconvolution of Sparse Processes”, June 2009. (A. Taylan Cemgil as co-advisor)
5. Yalçın Kılıç, “Source Separation of Seismological Signals Using Blind Deconvolution and Independent Component Analysis Techniques”, Sept. 2006.(Mustafa Aktar as co-advisor).
6. Haluk Bayram “Robot’s Part Rearrangement-Sensor Uncertainty Reduction Using Particle Filters”, Sept. 2006 (Isil Bozma as co-advisor).
7. Ekrem Ahmet Vural, “Multichannel Blind Deconvolution Using State Space Formulations”, September 2003.
8. Nazlı Güney, “Recognition of Planar Objects Using Multiresolution Analysis”, June 2003.
9. Soner Ertürk, “Performance Comparison of OFDM and Frequency Domain Equalization for Broadband Wireless Communication System with DFE”, Sept. 2002, (Emin Anarım as co-advisor).
10. Murat Çabuk, “Analysis of Variable Step-Size LMS Algorithms”, March 2002.
11. Serhat Baydar, “Pulmonary Sound Classification of Smokers and Non-smokers using Partial Coherence Method”, 2002, (Yasemin P. Kahya as co-advisor).
12. Erdem Bala, “Application of Multi-Wavelet Techniques to Image Denoising”, September 2001.
13. Furkan Serim, “Analysis and Classification of ECG Signals by Partial Coherence Method”, April 2001.
14. O. Deniz Genççağa, “Adaptive Escalator Algorithms for System Identification and Their Application to Acoustic Echo Cancellation”, June 2000.
15. Basri Serdaş, “Texture Image Segmentation and Classification by Using 2-D Lattice Filters”, March, 2000.
16. Mustafa Güler, “Pattern Recognition of EMG Signals”, January 2000, (Ahmed Ademoğlu as co-advisor).
17. Muvaffak Can Koçak, “Development and Comparison of 2-D Least- Mean Squared Based Adaptive Lattice Algorithms”, February 1999.
18. Korkut Uluaydın, “Hybrid Echo Cancellation Using Gamma Filters”, August 1998.
19. İdil Haskan, “System Identification Using Orthogonal Functions and Application to the Acoustic Echo Cancellation”, June 1998.
20. Savaş Sezen, “Application of Two-Dimensional Lattice Filter Structures to the Subband Decomposition Problem”, June 1998.
21. Cem Ünsalan, “Pattern Recognition Methods for Texture Analysis Case Study: Steel Surface Classification”, June 1998, (Aytul Erçil as co-advisor).

22. Birkan Aras, “Texture Defect Detection Using Higher Order Statistics”, December 1997.
23. Ruşen Meylani, “Texture Analysis Using Adaptive Two-Dimensional Lattice Filters”, September 1997.
24. Ahmet Latif-Amet, “Texture Defect Detection Using Subband Decomposition”, July 1997.
25. Hüseyin Altun, “Blind estimation of Co-channel signal using direction of arrivals”, June 1997.
26. Burak Gökmen, “Identification and Equalization of Fading Channels Using Higher-Order Statistics and Cyclostationarity”, February 1997.
27. Levent Kılıç, “Adaptive System Identification Using Higher Order Statistics”, June 1996.
28. Nazife Dimililer, “Earthquake Prediction Using Neural Networks”, February 1995 (Ethem Alpaydın as co-advisor).
29. Nagihan Tülü Onuk, “Image Data Compression Using Different Lattice Filters and the Comparison of Their Performances”, June 1993.

Languages

- Turkish (native)
- English (fluent)

Publications

Journal Papers

1. Yıldırım, Sinan, A. T. Cemgil, M. Aktar, Y. Özakin and **A. Ertüzün**, “A Bayesian Deconvolution Approach for Receiver Function Analysis”, *IEEE Trans. Geoscience and Remote Sensing*, vol. 48, no.12, 2010, pp.4151-4163. ([doi](#))
2. Genççağa, D., E. E. Kuruoğlu, **A. Ertüzün**, “Modelling of Non-Gaussian Time-Varying Vector Autoregressive Processes by Particle Filtering”, *Multidimensional Systems and Signal Processing*, vol 21, no.1, 2010, pp. 73-85. ([doi](#)).
3. Genççağa, D., E. E. Kuruoğlu, **A. Ertüzün** and S. Yıldırım, “Estimation of Time Varying AR *SaS* Processes using Gibbs Sampling”, *Signal Processing*, vol 88, no.10, 2008, pp.2564, 2572. ([doi](#)).
4. Genççağa, D., **A. Ertüzün**, E.E. Kuruoğlu, “Modeling of Non-Stationary Autoregressive Alpha Stable Processes by Particle Filters”, *Digital Signal Processing*, vol. 18, no.3, 2008, pp. 465-478. ([doi](#)).
5. Serdaroğlu, A., **A. Ertüzün** and A. Erçil, “Defect Detection in Textile Fabric Images using Sub-Band Domain Subspace Analysis”, *Pattern Recognition and Image Analysis: Advances in Mathematical Theory and Applications*, volume17, no. 4, 2007, pp. 663-674. ([doi](#)).
6. Güney, N. and **A. Ertüzün**, “Recognition of Planar Objects using Multiresolution Analysis”, *EURASIP Journal of Applied Signal Processing*, volume 2007 (2007), Article ID 70351, 9 pages. ([doi](#)).
7. Sezer, O.G., A. Erçil and **A. Ertüzün**, “Using Perceptual Relation of Regularity and Anisotropy in the Texture with Independent Component Model for Defect Detection”, *Pattern Recognition*, volume 40, issue 1, 2007, pp. 121-133. ([doi](#)).

8. 8. Sezen, S. and **A. Ertüzün**, “2-D Four Channel Perfect Reconstruction Filter Bank Realized with 2-D Lattice Filter Structure”, *EURASIP Journal of Applied Signal Processing*, 2006 (2006), Article ID 42672, 16 pages. ([doi](#)).
9. Meylani, R., C. Öden, **A. Ertüzün**, A. Erçil, “2-D Iteratively Reweighted Lattice Algorithm for Adaptive Detection of Defects in Textured Images”, *IEICE Transactions on Fundamentals of Electronics Communications and Computer Sciences*, vol.E89-A, no.5, May 2006, pp. 1484-1494. ([doi](#)).
10. Serdaroğlu, A., **A. Ertüzün** and A. Erçil, “Defect Detection in Textile Fabric Images Using Wavelet Transforms and Independent Component Analysis”, *Pattern Recognition and Image Analysis: Advances in Mathematical Theory and Applications*, vol.16, no. 1, 2006, pp.61-64. This work is also published in Proc. *7th International Conference Pattern Recognition and Image Analysis: New Information Technologies (PRIA-7-2004)*, St. Petersburg, Russian Federation, 18-23 Oct. 2004, pp.890-893. ([doi](#)).
11. Bala, E. and **A. Ertüzün**, “A Multivariate Thresholding Technique for Image Denoising using Multiwavelets”, *EURASIP Journal of Applied Signal Processing*, vol. 2005, no 8, May 2005, pp.1205-1211. ([doi](#))
12. Sezer, O.G., **A. Ertüzün** and A. Erçil, “Independent Component Analysis for Texture Defect Detection”, *Pattern Recognition and Image Analysis*, vol. 14, no. 2, 2004, pp. 303-307. This work is also published in Proc. of the *6th German-Russian Workshop "Pattern Recognition and Image Understanding" (OGRW-6-2003)*, Katun Village, Novosibirsk, Altai region, Russian Federation, Aug. 25-30, 2003, pp. 210-213.
13. Hendekli, C.M. and **A. Ertüzün**, “Design of a Multichannel Two-Dimensional Delta-Domain Lattice Filter for Noise Removal”, *IEEE Trans. on Signal Processing*, vol. 49, no.7, July 2001, pp.1581-1593. ([doi](#)).
14. Latif-Amet, A., **A. Ertüzün** and A. Erçil, “An Efficient Method for Texture Defect Detection: Subband Domain Co-Occurrence Matrices”, *Image and Vision Computing*, vol. 18, May 2000, pp.543-553.
15. Hendekli, C.M. and **A. Ertüzün**, “Two-Dimensional Delta Domain Lattice Filter and Its Application to Adaptive Image Enhancement”, *IEEE Trans. Signal Proc.*, vol. 47, no. 1 , Jan 1999, pp.266-273. ([doi](#)).
16. **Ertüzün, A.**, A.H. Kayran and E. Panayırçı, “A Further Improved 2-D Lattice Filter Structure Employing Missing Reflection Coefficients”, *Circuits Systems and Signal Processing*, vol. 14, no.4, June 1995, pp.473-494. ([doi](#)).
17. **Ertüzün, A.** and K. Çıtmacı, “Comments on 'Discrete Convolution by Means of Forward and Backward Modeling' ”, *IEEE Trans. on Signal Processing*, vol 43, no.3, March 1995, pp.784-788. ([doi](#)).
18. **Ertüzün, A.**, A.H. Kayran and E. Panayırçı, “An Improved 2-D Lattice Filter and Its Entropy Relations”, *Signal Processing*, vol. 28, no.1, July 1992, pp. 1-24. ([doi](#)).
19. **Ertüzün, A.**, A.H. Kayran and E. Panayırçı, “Stable Quarter-Plane 2-D Lattice Filters”, *Electronic Letters*, vol. 26, no. 12, 7 June, 1990, pp. 806-807.

Turkish Journal Papers

1. Bahri Maraş, Nafiz Arıca, **Ayşın Ertüzün**, “Görsel Hedef Takibi Yöntemlerine Genel Bakış”, *EMO Bilimsel Dergi*, vol. 7, No.13, June 2017, pp.5-16.
2. **Ertüzün, A.**, “A Survey of 2-D Lattice Filter Structures”, *TÜBİTAK Elektrik Dergisi*, no.1, 1995, pp. 33-58.

3. **Ertüzün, A.**, A.H. Kayran and E. Panayırçı, “A New 2-D Causal Lattice Filter and Its Entropy Relations to Model AR Fields”, *Bulletin of Technical University of İstanbul*, vol. 43, no. 1, 1990, pp. 23-56.

International Conference Papers

1. Sarı, Leda and **A. Ertüzün**, “Texture Defect Detection using Independent Vector Analysis in Wavelet Domain”, 22nd International Conference on Pattern Recognition (ICPR 2014), Aug. 24-28, 2014. Stockholm, Sweden. ([doi](#)).
2. Fırat, U, Ş.N. Engin, M. Saraçlar, and **A. Ertüzün**, “Wind Speed Forecasting Based on Second Order Blind Identification and Autoregressive Model”, *The Ninth International Conference on Machine Learning and Applications (IMCLA 2010)*, Washington D.C., December 12-14, 2010. ([doi](#)).
3. Yıldırım, S., A. Taylan Cemgil and **A. Ertüzün**, “A Hybrid Method for Deconvolution of Bernoulli-Gaussian Processes”, *International Conference on Acoustic, Speech and Signal Processing (ICASSP 2009)*, Taipei, Taiwan, April 19-24, 2009. ([doi](#)).
4. Başıbüyük, K., K. Çoban and **A. Ertüzün**, “Model Based Defect Detection Problem: Particle Filter Approach”, 3rd IEEE International Symposium on Communications, Control and Signal Processing (ISCCSP 2008), St Juliens, Malta, March 12-14, 2008. ([doi](#)).
5. Bayram, H., **A. Ertüzün**, H.I. Bozma, “Event Driven Parts’ Moving under Sensory Inaccuracy: Particle Filter Approach”, *IEEE International Conference on Robotics and Automation (ICRA 2006)* 2006, Orlando, FL, USA, May 15-19, 2006, pp.2029-2034.
6. Güney, N. and **A. Ertüzün**, “Undoing the Affine Transformation by Blind Source Separation”, *6th International Conference on Independent Component Analysis and Blind Source Separation (ICA2006)*, Charleston, SC, USA, March 5-8 2006, pp.360-367.
7. Gençğa O.D., E. E. Kuruoğlu and **A. Ertüzün**, “Synthetic Aperture Radar Image Enhancement using Particle Filters”, *ESA-EUSC Image Information Mining*, Frascati, Roma, Italy, Oct 5-7, 2005.
8. Gençğa, O.D., E. E. Kuruoğlu and **A. Ertüzün**, “Estimation of Time-Varying Autoregressive Symmetric Alpha Stable Processes by Particle Filters”, *Proc. 13th European Signal Processing Conference (EUSIPCO 2005)*, Antalya, Turkey, Sept. 4-8, 2005. ([doi](#)).
9. Gençğa, O.D. and **A. Ertüzün**, “On the Performance Comparison of Gradient-Type Joint Process Estimators in Adaptive Signal Processing”, *Proc. 13th European Signal Processing Conference (EUSIPCO 2005)*, Antalya, Turkey, Sept. 4-8, 2005.
10. D. Gençğa, E. E. Kuruoğlu, **A. Ertüzün**, “Bayesian Separation of Non-Stationary Mixtures of Dependent Gaussian Sources”, *Proc. 25th International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering (MaxEnt 2005)*, Aug. 7-12, 2005, San Jose, Ca, USA.
11. Serdaroglu, A., **A. Ertüzün** and A. Erçil, “Defect Detection in Textile Fabric Images Using Wavelet Transforms and Independent Component Analysis”, *Proc. 7th International Conference Pattern Recognition and Image Analysis: New Information Technologies (PRIA-7-2004)*, St. Petersburg, Russian Federation, 18-23 Oct. 2004, pp.890-893.
12. Baydar, S., **A. Ertüzün** and Y. P. Kahya “Analysis and Classification of Respiratory Sounds by Signal Coherence Method”, *Proc. The 25th Annual Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 2003)*, Cancun, Mexico, Sept. 17-21, 2003, pp. 2950-2953. ([doi](#)).
13. Sezer, O. G., **A. Ertüzün** and A. Erçil, “Independent Component Analysis for Texture Defect Detection”, *Proc. of the 6th German-Russian Workshop "Pattern Recognition and Image Understanding" (OGRW-6-2003)*, Katun Village, Novosibirsk, Altai region, Russian Federation, Aug. 25-30, 2003, pp. 210-213.

14. Emir, U. E., C. B. Akgül, A. Akın, **A. Ertüzün**, B. Sankur and K. Harmancı, “Wavelet Denoising vs. ICA Denoising for Functional Optical Imaging”, *Proc. of the 1st International IEEE EMBS Conf. on Neural Engineering*, Capri Island, Italy, March 20-22, 2003, pp. 384-387. ([doi](#)).
15. Bala, E. and **A. Ertüzün**, “Applications of Multiwavelet Techniques to Image Denoising”, *Proc. Int. Conf. Image Processing ICIP2002*, Rochester, NY, USA, Sept. 22-25, 2002, vol. 3, pp. 581-584. ([doi](#)).
16. Meylani, R., **A. Ertüzün** and A. Erçil, “2-D Robust Least Squares Lattice Algorithm for Defect Inspection of Textile Products”, *Proc. IEEE–EURASIP Workshop on Nonlinear Signal and Image Processing(NSIP99)*, Antalya, Turkey, June 20-23, 1999, pp.593-597.
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