

# Murat Özbayoğlu

## Curriculum Vitæ

TOBB University of Economics and Technology  
Department of Computer Engineering  
Söğütözü Cad. No: 43, Söğütözü  
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## Areas of Interests

- Applied Computational Intelligence (for Finance, Manufacturing, Chemical Processes, Materials Science)
- Machine Learning and Pattern Recognition
- Data Science, Big Data Analytics
- Computer Vision and Image Processing
- Evolutionary Computation

## Education

- 1993  
1996  
**PhD Engineering Management**, *Missouri University of Science & Technology*, formerly known as University of Missouri-Rolla, **GPA: 3.82/4.0**, Rolla, MO, USA.  
**Thesis:** Hierarchical Fingerprint Identification based on an Unsupervised Neural Network
- 1992  
1993  
**M.S. Engineering Management**, *Missouri University of Science & Technology*, **GPA: 3.91/4.0**, Rolla, MO, USA.  
Emphasis on Information Technology, also completed 5 courses in Computer Science.
- 1987  
1991  
**B.S. Electrical Engineering**, *Middle East Technical University*, Ankara, Turkey.  
Emphasis on Telecommunications and Computer

## Employment History

- 2005  
**Assistant Professor**, *Faculty of Engineering*, Department of Computer Engineering. TOBB University of Economics and Technology (TOBB ETU), Ankara, Turkey
- 2001  
2005  
**Senior Programmer/Analyst**, *Manufacturing MIS Department*, St. Peters Plant. MEMC Electronic Materials, Inc., St. Louis, MO, USA
- 2001  
**Software/Database Engineer**, *Vizyonsoft*, contracted to ARIA Mobile Services. Istanbul, Turkey
- 1997  
2001  
**Software Engineer/Consultant**, *Beyond Inc.*, contracted to MEMC Electronics. St. Peters, MO, USA
- 1996  
1997  
**Product Development Engineer**, *Beyond Inc.*, St. Peters, MO, USA.
- 1995  
1996  
**Industrial Engineer**, *Marathon Electric Co.*, West Plains, MO, USA.
- 1992  
1995  
**Graduate Research Assistant**, *Smart Engineering Systems Lab*. University of Missouri-Rolla, Rolla, MO, USA
- 1991  
**Technical Department Manager**, *Apple Center Senkron*, Ankara, Turkey.
- 1992  
1990  
**Intern Electrical Engineer**, *Vega Electric*, Ankara, Turkey.
- 1989  
**Intern Electrical Engineer**, *Gold Fields of South Africa*, Johannesburg, RSA.

## Teaching Experience

### Undergraduate courses at TOBB ETU

BIL 001	<b>Introduction to Computer Engineering</b>	Fall '05
BIL 102	<b>Programming with Java</b>	Fall '05, Spring '06,'07,'08
BIL 114	<b>Programming with C/C++</b>	Spring '12, Summer '12
BIL 132	<b>Discrete Mathematics</b>	Spring '07,'08,'09,'14,'15,'16, '17, Summer '14,'15,'16,'17
BIL 331	<b>Analysis of Algorithms</b>	Fall '07,'08,'09, Spring '10,'11,'13,'14, Summer '11,'12
BIL 441	<b>Artificial Intelligence</b>	Fall '07,'08, Spring '10, Summer '13
BIL 442	<b>Artificial Neural Networks</b>	Summer '16
BIL 443	<b>Pattern Recognition</b>	Fall '06,'09, Spring '09,'12, Summer '14,'17
BIL 467	<b>Image Processing</b>	Fall '10, Spring '08

### Graduate courses at TOBB ETU

BIL 531	<b>Design and Analysis of Algorithms</b>	Fall '07, Spring '06
BIL 574	<b>Computational Intelligence in Finance</b>	Spring '12,'15,'17

### Online courses (for Ahmet Yesevi University)

TBIL 403	<b>Database Design and Management</b>	Fall '12, Spring '13
TBIL 503	<b>Graduation Design Project</b>	Fall '12
	<b>Artificial Intelligence (for Kazakhstan campus)</b>	Fall '12

### Invited talks / Tutorials / Short courses

2017	<b>Machine Learning &amp; Pattern Recognition Course</b> , <i>STM Inc.</i> , Ankara, 15-22 November 2017.
2017	<b>Open Data Analytics with Deep Learning</b> , <i>National Workshop on Big and Open Data</i> , Ministry of Telecommunications, Ankara, 23 May 2017.
2016	<b>Evolutionary Algorithms in Finance</b> , <i>Department of Computer Engineering Seminars</i> , TOBB University of Economics & Technology, Ankara, 16 November 2016.
2016	<b>Data Science in Cyber Environments</b> , <i>3<sup>rd</sup> Int. Cyber Security Workshop</i> , Gelisim University, Istanbul, 10-14 October 2016.
2016	<b>Data Science with Big Data</b> , <i>Data Science Meetup</i> , Bilkent Univ., Ankara, 25 January 2016.
2015	<b>Design and Development of an Ontology based Multi Agent Virtual Enterprise (OMAVE) System</b> , <i>Engineering Management and Systems Engineering Webex seminars</i> , Missouri University of Science and Technology, Rolla, MO, USA, 13 February 2015.
2014	<b>Pattern Recognition Course</b> , <i>Baskent Elektrik, ENERJISA Inc.</i> , Ankara, 4 September 2014.
2012	<b>Applications of Neural Networks</b> , <i>Department of Mathematics Seminars</i> , Ankara, 15 May 2012.

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## R&D and Project Experience

### Principal Investigator

2016

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**A Multi-Agent Simulation and Backtesting workbench software for Deep Learning and Evolutionary Algorithm based Options Trading Strategy Optimization,**  
*The Scientific and Technological Council of Turkey, TUBITAK 1001 project  
Project No: 215M248, Duration: 36 months.*

**Team** 1 Principal Investigator, 1 consultant, 2 PhD students, 2 graduate students

**Description** Analysis and optimization of different option strategies for various market conditions using deep learning and evolutionary computation methodologies

**Keywords** Deep learning, financial markets, stock and option trading, multi-agent systems, evolutionary computation, options strategy optimization

2014

2016

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**ATM User Profiling and Menu Optimization,**  
*Ministry of Science, Industry and Technology SANTEZ project with PROVUS, A.S  
Project No: STZ-0367-2013.2, Duration: 21 months.*

**Team** 1 Principal Investigator, 1 researcher, 2 graduate students

**Description** Creating customized user ATM menus optimized for faster navigation and efficiency.

**Keywords** Menu optimization, ETL, clustering, machine learning, evolutionary computation, computational intelligence, Hadoop Mapreduce, transaction forecasting

2008

2011

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**Determination Of Cuttings Transport Properties Of Gasified Drilling Fluids,**  
*The Scientific and Technological Council of Turkey, TUBITAK 1001 project  
Project No: 108M106, Duration: 30 months.*

**Team** 1 Principal Investigator, 1 researcher, 2 PhD students, 1 graduate student

**Description** Analysis of multiphase gas-liquid-cuttings flow in eccentric annuli for extracting flow characteristics using image processing and computational intelligence techniques

**Keywords** Gas-liquid-cuttings flow, image processing, machine learning, computational intelligence, liquid holdup estimation, pressure drop estimation, horizontal or inclined annuli

### Researcher

2015

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**Establishing Crop Information System for Wheat Production to Sustain Food Security,**  
*The Scientific and Technological Council of Turkey, TUBITAK 3001 project  
Project No: 115O850, Duration: 36 months.*

**Team** 1 Principal Investigator, 3 researchers, 1 graduate student

**Description** Analysis of wheat crop data using classical and machine learning techniques and provide a crop information system and database with a web interface

**Keywords** Crop information system, computational intelligence, field yield estimation, GIS

2013

2016

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**ECOMANINDUSTRY,**  
*European Union FP7-LEAD-ERA Project, Duration: 36 months.*

**Team** 3 international partners, 6 researchers, 2 programmers, 2 graduate students

**Description** Creating a web based software for data collection and identifying clean production and industrial symbiosis potentials for companies

**Keywords** Clean Production, Industrial Symbiosis, software development, database, GIS

2012  
2015

### **A Virtual Factory Framework for SMEs**, ,

Ministry of Science, Industry and Technology SANTEZ project with OSTIM Teknoloji, A.S, Duration: 36 months.

**Team** 1 Principal Investigator, 3 researchers, 1 PhD student,3 graduate students

**Description** Development of an Ontology based Multi-Agent Operational Virtual Factory Framework for Production High Value Added Products by SMEs

**Keywords** Virtual Enterprise, ontology, multi-agent systems, partner selection, high value added products manufacturing

2009  
2010

### **SIMOD - Simulation and Modelling for Coal Gasification**, ,

Turkish Coal Industries Research project, Duration: 9 months.

**Team** 1 Principal Investigator, 4 researchers

**Description** Identifying and optimizing coal gasification parameters and modelling different coal gasification setups with Matlab and MFIX

**Keywords** Coal gasification, process optimization

## Consultant

2016  
2017

### **CyDecSys - Advanced Cybersecurity Decision Support System Development**,

*The Scientific and Technological Council of Turkey, TUBITAK TEYDEB project with STM A.Ş, Duration: 14 months.*

**Team** STM team & 2 consultants from TOBB ETU

**Description** Development of rule-based and machine learning algorithms for vulnerability classification, pre-condition and postcondition analysis, attack graph generation

**Keywords** Machine Learning, Cybersecurity Vulnerability Classification

2015  
2017

### **Big Data Analytics, STM Technology** , Duration: 24 months.

**Team** STM R&D Department Researchers and Engineers

**Description** Technical consultancy in Big Data Analytics projects

**Keywords** Traffic Flow Analysis, Social Network Analysis, Forecasting Models, Data Science, User profiling

2014  
2017

### **SEAS - Smart Energy Awareness System**, Budget: 3,5 Million Euro

*European Union H2020 Project, Duration: 36 months.*

**Team** 21 international partners, 3 consultants from TOBB ETU

**Description** Developing a framework for smart grids for energy efficiency in producer-consumer networks and demonstrating the system on a micro-grid located in Ankara.

**Keywords** Smart Grid, Energy Efficiency, ontology, pattern recognition

2010  
2011

### **Telegraph-A recommendation system for Interactive TV**,

*The Scientific and Technological Council of Turkey, TUBITAK TEYDEB project with ANEL-ARGE A.Ş, Duration: 10 months.*

**Team** ANEL-ARGE team & 3 consultants from TOBB ETU

**Description** Development of a web-based interactive TV application providing a user information and recommendation system

**Keywords** Interactive TV, recommendation systems, software development

## Books

2015 Akin Ömer and **Özbayoğlu A. Murat**. *Ayrık Matematik ve Uygulamaları - Translation of Discrete Mathematics and its Applications, 7th edition by Kenneth Rosen*. Palme Yayıncılık.

2007 Yazıcı Ali, Doğdu Erdoğan, **Özbayoğlu A.Murat**, Erten Y.Murat, and Ergin Oğuz. *Introduction to Java Programming (in Turkish)*. Palme Yayıncılık.

## Book Chapters

2017 **A. Murat Özbayoğlu**. "Open Data Analytics with Deep Learning". In: ed. by Şeref Sağıroğlu Orhan Koç. *Big Data and Open Data Analytics: Methods and Applications (in Turkish)*. Grafiker. Chap. 7, pp. 115–130.

## SCI Journal Publications

2017 Sadigh, B. Lotfi, Nikghadam, S., **Ozbayoglu, A.M.**, Unver, H.O., Dogdu, E., and Kilic, S.E. "An ontology-based multi-agent virtual enterprise system (OMAVE): part 2: partner selection". *International Journal of Computer Integrated Manufacturing*, DOI:10.1080/0951192X.2017.1285424, 31 January 2017.

2017 Seyfioğlu, M.S., **Ozbayoglu, A.M.**, and Gürbüz, S.Z. "Deep Convolutional Autoencoder for Radar-Based Classification of Similar Aided and Unaided Human Activities". *IEEE Transactions on Aerospace and Electronic Systems*, requested revision under review.

2017 Sezer, Ö.B., Dogdu, E., and **Ozbayoglu, A.M.** "Context Aware Computing, Learning and Big Data in Internet of Things: A Survey". *IEEE Internet of Things Journal*, DOI: 10.1109/JIOT.2017.2773600.

2017 Sezer, Ö.B. and **Ozbayoglu, A.M.** "Algorithmic Financial Trading with Deep Convolutional Neural Networks: Time Series to Image Conversion Approach". *Applied Soft Computing*, under review.

2017 Sezer, Ö.B. and **Ozbayoglu, A.M.** "Financial Trading Model with Stock Bar Image Time Series with Deep Convolutional Neural Networks". *Intelligent Automation and Soft Computing*, under review.

2016 Sadigh, B. Lotfi, Nikghadam, S., Unver, H.O., **Ozbayoglu, A.M.**, and Kilic, S.E. "An ontology-based multi-agent virtual enterprise system (OMAVE): part 1: domain modelling and rule management". *International Journal of Computer Integrated Manufacturing*, DOI: 10.1080/0951192X.2016.1145811, 19 February 2016.

2015 Nikghadam, S., Sadigh, B.Lotfi, **Ozbayoglu, A.M.**, Unver, H.O., and Kilic, S.E. "A survey of partner selection methodologies for virtual enterprises and development of a goal programming-based approach". *International Journal of Advanced Manufacturing Technology*, 1–22, DOI 10.1007/s00170-015-8068-0, 12 November 2015.

2015

Osgouei, R.E., Özbayoğlu, E., **Özbayoğlu, M.**, and Yüksel, E. "A new model to determine the two phase drilling Fluid Behaviors through Horizontal Eccentric Annular Geometry, Part A: Flow Pattern Identification and Liquid Holdup Estimation". *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* 37.15, 1663–1673, DOI: 10.1080/15567036.2011.574192, 13 July 2015.

2015

Osgouei, R.E., Özbayoğlu, E., **Özbayoğlu, M.**, and Yüksel, E. "A new model to determine the two phase drilling Fluid Behaviors through Horizontal Eccentric Annular Geometry, Part B: Frictional Pressure Losses Estimation". *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* 37.16, 1756–1765, DOI: 10.1080/15567036.2011.561275, 15 July 2015.

2015

Osgouei, Reza Etehadi, **Özbayoğlu, A. Murat**, Ozbayoglu, Evren M., Yuksel, Ertan, and Eresen, Aydin. "Pressure drop estimation in horizontal annuli for liquid–gas 2 phase flow: Comparison of mechanistic models and computational intelligence techniques". *Computers & Fluids* 112, 108–115, DOI: 10.1016/j.compfluid.2014.11.003, 2 May 2015.

2014

Sorgun, Mehmet, **Özbayoğlu, A Murat**, and Ozbayoglu, M Evren. "Support Vector Regression and Computational Fluid Dynamics Modeling of Newtonian and Non-Newtonian Fluids in Annulus With Pipe Rotation". *Journal of Energy Resources Technology* 137.3, 5 pages, paper No 032901, DOI: 10.1115/1.4028694, 21 October 2014.

2013

**Özbayoğlu, AM**, Kasnakoglu, C, Gungor, A, Biyikoglu, A, and Uysal, BZ. "A Two-Stage Water-Gas Shift Reactor Model To Obtain Desired Synthesis Gas Characteristics With Adjustable Reactor Parameters". *Journal of The Faculty of Engineering And Architecture of Gazi University* 28.2, 339–351, June 2013.

2013

Sorgun, Mehmet, Osgouei, Reza E, Ozbayoglu, M Evren, and **Özbayoğlu, A Murat**. "Gas-Liquid Flow Through Horizontal Eccentric Annuli: CFD and Experiments Compared". *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* 35.10, 891–899, DOI: 10.1080/15567036.2011.559524, 8 April 2013.

2012

Gungor, Afsin, **Özbayoğlu, Murat**, Kasnakoglu, Cosku, Biyikoglu, Atilla, and Uysal, Bekir Zuhtu. "A parametric study on coal gasification for the production of syngas". *Chemical Papers* 66.7, 677–683, DOI: 10.2478/s11696-012-0164-0, July 2012.

2012

**Özbayoğlu, A Murat** and Yuksel, H Ertan. "Analysis of gas–liquid behavior in eccentric horizontal annuli with image processing and artificial intelligence techniques". *Journal of Petroleum Science and Engineering* 81.1, 31–40, DOI: 10.1016/j.petrol.2011.12.008, January 2012.

2012

Ozbayoglu, Mehmet, Osgouei, Reza, **Özbayoğlu, Murat**, and Yuksel, Ertan. "Hole Cleaning Performance of Gasified Drilling Fluids in Horizontal Well Sections". *SPE Journal* 17.3, 912–923, DOI: 10.2118/131378-PA, September 2012.

2009

Ozbayoglu, E.M. and **Özbayoğlu, A M.** "Estimating flow patterns and frictional pressure losses of two-phase fluids in horizontal wellbores using artificial neural networks". *Petroleum Science and Technology* 27.2, 135–149, DOI: 10.1080/10916460701700203, 27 January 2009.

2008

Özbayoğlu, Gülhan, **Özbayoğlu, A Murat**, and Özbayoğlu, M Evren. "Estimation of Hardgrove grindability index of Turkish coals by neural networks". *International Journal of Mineral Processing* 85.4, 93–100, DOI: DOI: 10.1016/j.minpro.2007.08.003, 31 January 2008.

## Other Journals

2017

Adalı, S.F., Demirci, M.F., and **Ozbayoglu, A.M.** *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* vol. 47, (2), pp. 153–185.

2016

Agca, M. Akif, Atac, Senol, Yucesan, M. Mert, Kucukayan, Gokhan Y., **Ozbayoglu, A. Murat**, and Dogdu, Erdogan. *Opinion Mining of Microblog Texts on Hadoop Ecosystem*. Ed. by 2<sup>nd</sup> IBM Cloud Academy Conference. *International Journal of Cloud Computing* vol. 5.1-2, 79–90, DOI: 10.1504/IJCC.2016.075096.

2015

Nikghadam, S., Lotfi Sadigh, B., **Ozbayoglu, A. M**, Unver, H. O., and Kilic, S. E. *Evaluation of Partner Companies based on Fuzzy Inference System for Establishing Virtual Enterprise Consortium*. *Lecture Notes in Computer Science – CCIS Communications in Computer Science* vol. 577, 104–115, DOI: 10.1007/978-3-319-27680-9\_7, 15 Dec 2015.

2014

Adalı, Selim F., Demirci, M. Fatih, **Özbayoğlu, A. Murat**, and Ergin, Oğuz. *Why the Names? Anubanini and His Clan in the Cuthaeen Legend*. *Journal of the Ancient History and Cultures of the Eastern Mediterranean* vol. 11, pp. 15–29.

2011

Güngör, A., **Ozbayoglu, A.M.**, Kasnakoglu, C., Biyikoglu, A., and Uysal, B.Z. *Determination of Air/Fuel and Steam/Fuel Ratio for Coal Gasification Process to Produce Synthesis Gas*. *Journal of Environmental Science and Engineering* vol. 5.5, pp. 799–804.

## Conference Publications

2017

Arin, Efe, Güdelek, U., and **Ozbayoglu, A.M.** "Quora Duplicate Query Elimination". *LTC '17, 8th Language and Technology Conference*. Poznan, Poland, 17-19 November 2017.

2017

Güdelek, M.U., Bölük, S.A., and **Ozbayoglu, A.M.** "A Deep Learning based Stock Trading Model with 2-D CNN Trend Detection". *IEEE Computational Intelligence in Financial Engineering (IEEE CIFE 2017) in IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2017)*. 27 November - 1 December, Honolulu, HI, USA.

2017

Kahya, M., Serin, G., **Ozbayoglu, A.M.**, and Ünver, H.Ö. "Investigation of rough milling of Ti6Al4V using response surface methodology". *8th International Symposium on Machining*. Antalya, Turkey, 02-04 November 2017.

2017

Önal, A.C., Sezer, Ö.B., **Ozbayoglu, A.M.**, and Dogdu, E. "Weather Data Analysis and Sensor Fault Detection Using An Extended IoT Framework with Semantics, Big Data, and Machine Learning". *IEEE International Conference on Big Data, 2017*. Boston, MA, USA, 11-14 December 2017.

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- <sup>2017</sup> Sarıkan, S.S., **Ozbayoglu, A.M.**, and Zilci, O. "Automated Vehicle Classification with Image Processing and Computational Intelligence". *Procedia Computer Science, Complex Adaptive Systems, CAS 2017*. Vol. 114. Chicago, IL, USA, 30 October-1 November, 2017, pp. 515–522.
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- <sup>2017</sup> Serin, G., Güdelek, M.U., **Ozbayoglu, A.M.**, and Ünver, H.Ö. "Estimation of parameters for the free-form machining with deep neural net". *IEEE International Conference on Big Data, 2017*. Boston, MA, USA, 11-14 December 2017.
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- <sup>2017</sup> Serin, G., Kahya, M., **Ozbayoglu, A.M.**, and Ünver, H.Ö. "An artificial neural network based power prediction model for rough cutting of AISI 304". *8th International Symposium on Machining*. Antalya, Turkey, 02-04 November 2017.
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- <sup>2017</sup> Seyfioğlu, M.S., Gürbüz, S.Z., **Ozbayoglu, A.M.**, and Yüksel, M. "Deep learning of micro-Doppler features for aided and unaided gait recognition". *2017 IEEE Radar Conference*. Seattle, WA, USA, 8-12 May 2017, pp. 1125–1130.
- 
- <sup>2017</sup> Sezer, Ö.B., **Ozbayoglu, A.M.**, and Dogdu, E. "A Deep Neural-Network Based Stock Trading System Based on Evolutionary Optimized Technical Analysis Parameters". *Procedia Computer Science, Complex Adaptive Systems, CAS 2017*. Vol. 114. Chicago, IL, USA, 30 October-1 November, 2017, pp. 473–480.
- 
- <sup>2017</sup> Sezer, Ö.B., **Ozbayoglu, A.M.**, and Dogdu, E. "An Artificial Neural Network-based Stock Trading System Using Technical Analysis and Big Data Framework". *ACM Southeast Conference, ACMSE 2017*. Kennesaw State University, GA, April 13-15, 2017, pp. 223–226.
- 
- <sup>2016</sup> Kulcu, S., Dogdu, E., and **Ozbayoglu, A.M.** "A Survey on Semantic Web and Big Data Technologies for Social Network Analysis". *IEEE International Conference on Big Data, 2016*. Washington, DC, 5–8 December, 2016, pp. 1768–1777.
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- <sup>2016</sup> **Ozbayoglu, A.M.**, Küçükayan, G., and Dogdu, E. "A Real-Time Autonomous Highway Accident Detection Model Based on Big Data Processing and Computational Intelligence". *IEEE International Conference on Big Data, 2016*. Washington, DC, 5–8 December, 2016, pp. 1807–1813.
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- <sup>2016</sup> Nikghadam, S., **Özbayoğlu, A.M.**, Ünver, H. O., and Kilic, S. E. "Design of a Customer's Type Based Algorithm for Partner Selection Problem of Virtual Enterprise". *Procedia Computer Science, Complex Adaptive Systems, CAS 2016*. Vol. 95. Los Angeles, CA, USA, 2-4 November, 2016, 467–474, DOI:10.1016/j.procs.2016.09.323.
- 
- <sup>2016</sup> Sezer, O.B., Dogdu, E., **Ozbayoglu, A.M.**, and Onal, A.C. "An Extended IoT Framework with Semantics, Big Data, and Analytics". *IEEE International Conference on Big Data, 2016*. Washington, DC, 5–8 December, 2016, pp. 1849–1856.
- 
- <sup>2015</sup> Demiray, Y.S., **Özbayoğlu, A.M.**, and Taş, B.K.O. "Estimation of the Number of Participants in Government Tenders with Computational Intelligence". *3rd Workshop on Social and Algorithmic Issues in Business Support (SAIBS) 2015*. Poznan, Poland, 27-29 November 2015, pp. 433–437.



- 2015 Karimov, J., **Özbayoğlu, M.**, and Dogdu, E. "k-means Performance Improvements with Centroid Calculation Heuristics both for Serial and Parallel environments". *2015 IEEE Big Data Congress*. New York, NY, 27 June-2 July 2015, 444–451, DOI: 10.1109/BigDataCongress.2015.72.
- 2015 Karimov, Jeyhun and **Ozbayoglu, A Murat**. "Clustering Quality Improvement of K-means Using a Hybrid Evolutionary Model". *Procedia Computer Science, Complex Adaptive Systems, CAS 2015*. Vol. 61. San Jose, CA, 2-4 November, 2015, 38–45, DOI:10.1016/j.procs.2015.09.143.
- 2015 Karimov, Jeyhun and **Ozbayoglu, A Murat**. "High quality clustering of big data and solving empty-clustering problem with an evolutionary hybrid algorithm". *IEEE International Conference on Big Data, 2015*. Santa Clara, CA, 29 October - 1 November 2015, pp. 1473–1478.
- 2015 Karimov, Jeyhun, **Özbayoğlu, A Murat**, Tavlı, Bülent, and Doğdu, Erdoğan. "Generic Menu Optimization for Multi-profile Customer Systems". *IEEE International Symposium on Systems Engineering, ISSE 2015*. Rome, Italy, 28-30 September 2015, 163–169, DOI: 10.1109/SysEng.2015.7302750.
- 2015 Nikghadam, S., Sadigh, B.Lotfi, **Ozbayoglu, A. M.**, Unver, H. O., and Kilic, S. E. "Partner selection in formation of virtual enterprises using fuzzy logic". *International Conference on Operations Research and Enterprise Systems, ICORES 2015*. Lisbon, Portugal, 10-12 January 2015, pp. 82–88.
- 2015 Ucar, I., **Ozbayoglu, M.**, and Ucar, M. "Developing a Two Level Options Trading Strategy Based on Option Pair Optimization of Spread Strategies with Evolutionary Algorithms". *IEEE Congress on Evolutionary Computation, CEC 2015*. Sendai, Japan, May 25-28 2015, 2526–2531, DOI: 10.1109/CEC.2015.7257199.
- 2014 Agca, M. Akif, Atac, Senol, Yucesan, M. Mert, Kucukayan, Gokhan Y., **Özbayoglu, A. Murat**, and Dogdu, Erdogan. "Opinion Mining of Microblog Texts on Hadoop Ecosystem". *2nd IBM Cloud Academy Conference, ICA CON 2014*. Atlanta, GA, 8-9 May, 2014.
- 2014 Doğdu, Erdogan, **Özbayoğlu, A. Murat**, Benli, Okan, Erdener Akınç, Hülya, Erol, Erdeniz, Atasoy, Tugrul, Gurec, Ozan, and Erçin, Özden. "Ontology-centric data modelling and decision support in smart grid applications a distribution service operator perspective". *Proc. of the 2014 IEEE International Conference on Intelligent Energy and Power Systems (IEPS)*. Kyiv, Ukraine, June 2-6, 2014, 198–204, DOI: 10.1109/IEPS.2014.6874179.
- 2014 Gumus, Tuna, Hugli, Christoph, Hengevoss, Dirk, Kılıç, Engin, Massard, Guillaume, **Özbayoğlu, Murat**, and Unver, Ozgur. "Conceptualization of a Web-based Software Platform that enables Clean Production and Industrial Symbiosis". *16th International Conference on Machine Design and Production, UMTIK 2014*. İzmir, Turkey, 30 June - 2 July 2014.
- 2014 Sadigh, B Lotfi, Arıkan, F, **Ozbayoglu, AM**, Unver, HO, and Kilic, SE. "A Multi-agent System Model for Partner Selection Process in Virtual Enterprise". *Procedia Computer Science, Complex Adaptive Systems, CAS 2014*. Vol. 36. Philadelphia, PA, 3-5 November 2014, 367–372, DOI:10.1016/j.procs.2014.09.007.

2014

Sahin, Ugur and **Ozbayoglu, A Murat**. "TN-RSI: Trend-normalized RSI Indicator for Stock Trading Systems with Evolutionary Computation". *Procedia Computer Science, Complex Adaptive Systems, CAS 2014*. Vol. 36. Philadelphia, PA, 3-5 November 2014, 240–245, DOI:10.1016/j.procs.2014.09.086.

2013

Osgouei, R.E., Özbayoğlu, M.E., **Özbayoğlu, A.M**, and Eren, T. "Three phase flow characteristics in Inclined Eccentric Annuli". *2013 IADC/SPE Drilling Technology Conference and Exhibition (MEDT)*, Dubai, UAE, 7-9 October 2013, 1–23, DOI: 10.2118/166687–MS.

2013

Osgouei, Reza Etehad, Ozbayoglu, Mehmet Evren, **Ozbayoglu, Murat**, and Yuksel, Ertan H. "The Determination of Two Phase Liquid-Gas Flow Behavior Through Horizontal Eccentric Annular Geometry by Modification of Beggs & Brill and Lockhart & Martinelli Models". *ASME 2013 Fluids Engineering Division Summer Meeting*. Incline Village, NV, 7-11 July 2013, 1–9, DOI:10.1115/FEDSM2013–16206.

2013

Ucar, Mustafa, Bayram, Ilknur, and **Ozbayoglu, A Murat**. "A Two-Level Cascade Evolutionary Computation Based Covered Call Trading Model". *Procedia Computer Science, Complex Adaptive Systems, CAS 2013*. Vol. 20. Baltimore, MD, 13-15 November 2013, 472–477, DOI:10.1016/j.procs.2013.09.305.

2012

Guven, Erhan and **Ozbayoglu, A Murat**. "Note and Timbre Classification by Local Features of Spectrogram". *Procedia Computer Science, Complex Adaptive Systems, CAS 2012*. Vol. 12. Washington D.C., 14-16 November 2012, 182–187, DOI:10.1016/j.procs.2012.09.051.

2012

**Ozbayoglu, A.Murat**, Ozbayoglu, M.Evren, and Ozbayoglu, Gulhan. "Comparison of Gross Calorific Value Estimation of Turkish Coals using Regression and Neural Networks Techniques". *XXVIth International Mineral Processing Congress (IMPC 2012)*, Paper No: 420. New Delhi, India, 24-28 September 2012, pp. 4011–4023.

2012

**Özbayoğlu, A Murat** and Bozer, Recep. "Estimation of the Burned Area in Forest Fires Using Computational Intelligence Techniques". *Procedia Computer Science, Complex Adaptive Systems, CAS 2012*. Vol. 12. Washington D.C., 14-16 November 2012, 282–287, DOI:10.1016/j.procs.2012.09.070.

2012

Osgouei, Reza Etehad, Ozbayoglu, Mehmet Evren, and **Ozbayoglu, Murat**. "A Mechanistic Model to characterize the Two Phase Drilling Fluid Flow through inclined Eccentric Annular Geometry". *SPE Oil and Gas India Conference and Exhibition*. Mumbai, India, 28-30 March 2012, 1–14, DOI: 10.2118/155147–MS.

2012

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2011

Imamoglu, N, Eresen, A, and **Ozbayoglu, AM**. "Hierarchical rule-based neural network for multi-object classification using invariant features". *2011 International Symposium on Innovations in Intelligent Systems and Applications (INISTA)*. Istanbul, Turkey, 15-18 June 2011, 296–299, DOI: 10.1109/INISTA.2011.5946079.

2011

**Ozbayoglu, A Murat** and Yuksel, H Ertan. "Estimation of Multiphase Flow Properties using Computational Intelligence Models". *Procedia Computer Science, Complex Adaptive Systems, CAS 2011*. Vol. 6. Chicago, IL, 31 October-2 November 2011, 493-498, DOI:10.1016/j.procs.2011.08.091.

2011

Sorgun, Mehmet, **Ozbayoglu, A.Murat**, and Ozbayoglu M.Evren. "Gas-Liquid Flow Through Horizontal Eccentric Annuli: CFD and Experiments Compared". *ASME-JSME-KSME Joint Fluids Engineering Conference 2011*. Hamamatsu, Japan, 24-29 July 2011, 1-6, DOI:10.1115/AJK2011-24007.

2010

Biyikoğlu, Atilla, Güngör, Afşin, Kasnakoğlu, Coşku, **Özbayoğlu, Murat**, and Uysal, Zühtü. "Effect of Operation Parameters on Gasification For The Production of Synthesis Gas". *27th Annual International Pittsburgh Coal Conference*. İstanbul, Turkey, 11-14 October 2010.

2010

Gungor, Afsin, **Ozbayoglu, Murat**, Kasnakoglu, Cosku, Biyikoglu, Atilla, and Uysal, Bekir Zuhtu. "Determination of Air/Fuel and Steam/Fuel ratio for Coal Gasification process to produce Synthesis Gas". *2nd International Conference on Nuclear and Renewable Energy Sources, Ankara, Turkey, 4-7 July 2010*.

2010

Gungor, Afsin, **Özbayoğlu, Murat**, Kasnakoglu, Cosku, Biyikoglu, Atilla, and Uysal, Bekir Zuhtu. "A Parametric Study on Coal Gasification For The Production Of Syngas". *8th European Conf. On Coal Research and Its Applications-ECCRIA-8, Leeds Univ., 6-8 September 2010*.

2010

**Ozbayoglu, A.Murat** and Erkut, Umur. "Stock Market Technical Indicator Optimization by Genetic Algorithms". *Artificial Neural Networks for Engineering 2010 (ANNIE 2010)*. St. Louis, MO, 1-3 November 2010, 589-596, DOI: 10.1115/1.859599.paper73.

2010

**Ozbayoglu, Murat**, Kasnakoglu, Cosku, Gungor, Afsin, Biyikoglu, Atilla, and Uysal, Bekir Zuhtu. "An Analysis of Water Gas-Shift Reactor Battery System for Synthesis Gas Refinement". *11th International Combustion Symposium, Sarajevo, Bosnia-Herzegovina, 24-27 June 2010*.

2010

**Özbayoğlu, A.M.**, Özbayoğlu, M.E., and Özbayoğlu, G. "Regression Techniques and Neural Network for the Estimation of Gross Calorific Value of Turkish Coals". *XIIth International Mineral Processing Symposium*. Cappadocia-Nevşehir, Turkey, 6-8 October 2010, pp. 1175-1180.

2010

Osgouei, R.E., Ozbayoglu, M.E., **Ozbayoglu, A.M**, and Yuksel, E. "Hole Cleaning Performance of Gasified Drilling Fluids in Horizontal Well Sections". *SPE International Oil and Gas Conference & Exhibition, Paper SPE 131378*. Beijing, China, 8-10 June 2010, 1-18, DOI: 10.2118/131378-MS.

2010

Osgouei, Reza Etehad, Ozbayoglu, ME, **Ozbayoglu, MA**, and Yuksel, E. "Flow pattern identification of gas-liquid flow through horizontal annular geometries". *Paper SPE 129123, SPE Oil and Gas India Conference and Exhibition*. Mumbai, India, 20-22 January 2010, 1-9, DOI: 10.2118/129123-MS.

2010

Ozbayoglu, Mehmet Evren, Osgouei, Reza Etehad, **Ozbayoglu, Ahmet Murat**, and Yuksel, Ertan. "Estimation of "Very-Difficult-to-Identify" Data for Hole Cleaning, Cuttings Transport and Pressure Drop Estimation in Directional and Horizontal Drilling". *IADC/SPE Asia Pacific Drilling Technology Conference and Exhibition (APDT)*. Ho Chi Minh City, Vietnam, 1-3 November 2010, 1–18, DOI: 10.2118/136304-MS.

2009

Imamoglu, N, Eresen, A, Yağcı, A, and **Ozbayoglu, A.M.** "Performance Analysis of Moments in Invariant Object Classification". *Intelligent Engineering Systems Through Artificial Neural Networks*. Vol. 19. St. Louis, MO, 2-4 November 2009, 447–454, DOI: 10.1115/1.802953.paper56.

2008

**Ozbayoglu, A.M** and Bahadır, I. "Comparison of Bayesian Estimation and Neural Network Model in Stock Market Trading". *Intelligent Engineering Systems Through Artificial Neural Networks*. Vol. 18. St. Louis, MO, 9-12 November 2008, 581–586, DOI: 10.1115/1.802823.paper73.

2008

**Ozbayoglu, A.Murat**, Aydiner, Z, Kasnakoğlu, C, and Ozbayoglu, M.E. "Neural network and genetic programming in pressure loss estimation in eccentric pipe flow". *Intelligent Engineering Systems Through Artificial Neural Networks*. Vol. 18. St. Louis, MO, 9-12 November 2008, 163–170, DOI: 10.1115/1.802823.paper21.

2008

**Özbayoğlu, A.M.** and Özbayoğlu, G. "Hardgrove Grindability Index Estimation using Neural Networks". *XI. International Mineral Processing Symposium (IMPS 2008)*. Antalya, Turkey, 21-23 October 2008, pp. 621–626.

2007

**Ozbayoglu, AM** and Ozbayoglu, ME. "Using Neural Networks For Flow Pattern And Frictional Loss Estimation For Aerated Drilling Fluids". *Canadian International Petroleum Conference*. Calgary, Canada, 12-14 June 2007, 1–10, DOI: 10.2118/2007–211.

2007

**Ozbayoglu, A.Murat**. "Neural based Technical Analysis in Stock Market Forecasting". *Intelligent Engineering Systems Through Artificial Neural Networks*. St. Louis, MO, 11-14 November 2007, 261–266, DOI: 10.1115/1.802655.paper40.

2007

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2006

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1997

**Ozbayoglu, AM** and Dagli, CH. "Unsupervised hierarchical fingerprint matching". *IEEE International Conference on Neural Networks, 1997*. Vol. 3. Houston, TX, 9-12 June 1997, 1439–1442, DOI: 10.1109/ICNN.1997.614006.

1995

Enke, D., Lee, H.C., **Özbayoğlu, A.M.**, Thammano, A., and Dağlı, C.H. "SimNet: An application to speaker identification". *Intelligent Engineering Systems through Artificial Neural Networks*. Vol. 5. ASME Press, New York, 1995, pp. 69–76.

- 1995 Lee, HC, Dagli, CH, Ercal, F, and **Ozbayoglu, AM**. "SimNet: A Parallel Neuro-Fuzzy Paradigm for Data Clustering". *Ohio Aerospace Institute Neural Networks Symposium and Workshop (OAINN'95)*. Athens, OH, 23-24 August, 1995.
- 1994 Burkett, K, **Ozbayoglu, Murat A**, and Dagli, Cihan H. "Automated visual inspection system based on HAVNET architecture". *Proceedings of SPIE, Machine Vision Applications, Architectures, and Systems Integration III*. Vol. 2347. Boston, MA, 31 October-2 November 1994, 361-371, DOI: 10.1117/12.188757.
- 1994 **Ozbayoglu, MA**, Dagli, CH, and Fulkerson, B. "A hierarchical neural network implementation for forecasting". *IEEE World Congress on Computational Intelligence., 1994 IEEE International Conference on Neural Networks*. Vol. 5. Orlando, FL, 28 June-2 July 1994, 3184-3189, DOI: 10.1109/ICNN.1994.374744.
- 1993 Rosandich, Ryan G, **Ozbayoglu, Murat A**, Roddiger, Eric W, and Dagli, Cihan H. "Autonomous parts assembly: comparison of ART and Neocognitron". *Proceedings of SPIE, Applications of Neural Networks IV*. Vol. 1965. Orlando, FL, 12-16 April 1993, 480-490, DOI: 10.1117/12.152548.

## Poster Presentations

- 2013 Adali, Selim F., Demirci, M. Fatih, **Özbayoğlu, A. Murat**, and Uçar, Mustafa. *Towards the Automated Autograph and the Recognition of Cuneiform Signs: Preliminary Results 2013. Law and (Dis)order in the Ancient Near East 59th Rencontre Assyriologique Internationale, pp. 1-2, 15-19 July 2013, Ghent University, Belgium.*

## Publications in Turkish

- 2016 Güneş, U., Elbir, Ö., and **Özbayoğlu, A.M**. "Yapay Sinir Ağları ile Kullanıcı Profilleme ve Konfor Seviyesi Tahmini". In: *International Artificial Intelligence and Data Processing Symposium (IDAP-16)*. İnönü Üniversitesi, Malatya, Türkiye, 413-418, 17-18 September 2016.
- 2013 Tuğçi, R., Çelen, B., and **Özbayoğlu, A.M**. "Comparison of Classifiers for Chatter Detection (in Turkish) - Pürüz Tespiti için Sınıflandırıcıların Karşılaştırılması". In: *IEEE Sinyal İşleme ve İletişim Uygulamaları Konferansı (SIU 2013)*. DOI: 10.1109/SIU.2013.6531300, Girne, TRNC, 24-26 April 2013.
- 2011 **Özbayoğlu, A.M** and Kök, İ.Ş. "Comparison of Indoor Localization Models based on Relative Signal Strength (in Turkish) - Sinyal Gücüne Bağlı Bina içi Konum Tespiti Modelleri Karşılaştırılması". In: *Fırat Üniversitesi Elektrik-Elektronik Bilgisayar Sempozyumu (FEEB 2011)*. Vol. 2. Elazığ, Turkey, 99-104, 5-7 October 2011.
- 2010 Bıyıkoğlu, Atilla, Kasnakoğlu, Coşku, **Özbayoğlu, A. Murat**, Güngör, Afşin, Özgür, D.Ö, and Uysal, B. Zühtü. "Determination of Coal Gasification parameters for the production of Synthesis Gas (in Turkish) Sentez Gazı Üretimine Yönelik Kömür Gazlaştırma Parametrelerinin Tayini". In: *9th National Chemical Engineering Congress (UKMK-9)*. Gazi University, Ankara, Turkey, 22-25 June 2010.

2007

Özbayoğlu, A.M. "Implementations of Intelligent Agents in e-Health (in Turkish) - Akıllı araçların e-sağlıkta kullanımı: Hastalık teşhis modelleri". In: 2. *E-Sağlık Çalıştayı*. Antalya, Turkey, 18–20 October 2007.

2007

Yazıcı, Ali, Erten, Murat, Özbayoğlu, Murat, and Tavlı, Bülent. "CS0: Introduction to Computer Engineering in TOBB ETU (in Turkish) - CS0: TOBB ETÜ'de Bilgisayar Mühendisliğine Giriş Dersi". In: *Akademik Bilişim 2007*. Dumlupınar University, Kütahya, Turkey, 31 January –2 February 2007.

2006

Özbayoğlu, A.M. "A Stock Market Forecasting Application using Neural Networks (in Turkish) - Yapay Sinir Ağları kullanarak hazırlanan bir Hisse senedi değer tahmini uygulaması". In: *TOK 06, Otomatik Kontrol Ulusal Toplantısı*. TOBB, ETU, Ankara, Turkey, 149–152, 6–8 November 2006.

2005

Özbayoğlu, A.M. "An Automated Fingerprint Classification and Identification System based on Directional Band Pass Filtering and Neural Networks (in Turkish) - Yönel Bant geçiren filtre ve yapay sinir ağları yardımıyla otomatik parmak izi sınıflandırma ve tanıma işlemi". In: *II. Polis Bilişim Sempozyumu*. Ankara, Turkey, 234–237, 14–15 April 2005.

1995

Özbayoğlu, A.M., Lee, H.C., Dağlı, C.H., Erçal, F., and Enke, D. "SimNet: An Artificial Neural Network for Classification Applications (in Turkish) - SimNet: Sınıflandırma uygulamaları için bir yapay sinir ağı". In: *XVIIth National Conference on Operational Research and Industrial Engineering Conference*. METU, Ankara, Turkey, 10–11 July 1995.

1995

Sönmezer, O, Özbayoğlu, G, Atalay, Ü, Özbayoğlu, M, and Dağlı, C. "Grinding Stage Modeling by Using Artificial Neural Networks (in Turkish) - Öğütme Devresinin Yapay Sinir Ağları ile Modellenmesi". In: *Madencilikte Bilgisayar Uygulamaları Sempozyumu*. İzmir, Turkey, 211–217, 28–29 September 1995.

## Abstracts / Extended Abstracts

2017

Karamüftüoğlu, A., Bozbey, A., and Özbayoğlu, A.M. *Development of Superconductor Integrated Logic Circuit Design with Artificial Neural Network Structure*. International Conference on Condensed Matter and Materials Science, ICCMMS-2017, 11-15 October 2017, Adana, Turkey, pp:60.

2016

Özbayoğlu, A.Murat and Yavuz, M.H. *Algorithmic music composition with stochastic processes and genetic algorithms (in Turkish) - Rastlantısal Süreç ve Genetik Algoritmalar ile Algoritmik Kompozisyon*. International Conference on Mathematics and Mathematics Education (ICMME-2016), Fırat University, 12-14 May, Elazığ, Turkey.

2016

Nikghadam, S., Unver, H. O., Özbayoğlu, A.M., and Kilic, S. E. *A Structurally Enhanced Fuzzy Inference System Partner Selection Technique In Forming Virtual Enterprise*. INFORMS 2016, Nashville, TN, USA, 13-16 November 2016.

2015

Şahin, Uğur and **Özbayoğlu, A.Murat**. *Trend-normalized RSI Indicator for Stock Trading Systems with Evolutionary Computation (in Turkish) - Finansal İşlemler için Evrimsel Hesaplamalar yoluyla Eğilimden Arındırılmış Bağlı Güç Endeksi Göstergesi*. MATDER, 14. Matematik Sempozyumu, 14-16 May, Niğde, Turkey.

2014

Sadigh, B Lotfi, Nikghadam, S., Unver, H. O., **Özbayoğlu, A.M.**, and Kilic, S. E. *Operasyonel Sanal Fabrika için Esnek Veri Modeli ve Veritabanının Geliştirilmesi (in Turkish)*. 5th Workshop on Advanced Technologies, İstanbul, October 2014.

2011

**Özbayoğlu, A.M.**, Osgouei, R.E., Özbayoğlu, M.E., and Yüksel, H.E. *Gaz sıvı karışimli sondaj akışlarının kesinti (kırıntı) taşıma özelliklerinin tayini (Determination of Cuttings Transport Properties of Aerated Drilling Fluids)*. IPETGAS 2011, Ankara-Turkey.

2009

Ozbayoglu M.E., **Ozbayoglu A.M.**, Osgouei R.E., and Yuksel E. *Determination of Cutting Concentration through Horizontal Annular Geometry by using Image Processing Techniques*. IPETGAS 09, Ankara - Turkey.

2009

Ozbayoglu M.E., **Ozbayoglu A.M.**, Osgouei R.E., and Yuksel E. *Determination of Liquid Hold up through Horizontal Annular Geometry by using Image Processing Techniques*. IPETGAS 09, Ankara-Turkey.

## Thesis

1996

**Ozbayoglu, Ahmet Murat**. "Hierarchical fingerprint identification based on an unsupervised neural network model". PhD thesis. Engineering Management Dept, University of Missouri-Rolla.

## Students Supervised

### PhD Students

2014

**Mustafa Uçar**, *ongoing*.

2015

**Uğur Şahin**, *ongoing*.

2016

**Ömer Berat Sezer**, *ongoing*.

2016

**Selim Sefa Sarıkan**, *ongoing*.

2011

2016

**Ayhan Akbaş**, *Thesis*: Joint Optimization of Transmission Power Level and Data Packet Size for Wireless Sensor Network Lifetime Maximization.

### M.S. Students

2016

**Derviş Utku Ufuk**, *ongoing*.

2016

**Uğur Güdelek**, *ongoing*.

2015

**Eyüp Levent Yıldız**, *ongoing*.

2015

**Aras Can Önal**, *ongoing*.

2013

2016

**Gökhan Küçükayan**, *Thesis*: Analysis of the Traffic Flow and Accidents with Big Data Algorithms.

2014

2016

**Ceyhun Karimov**, *Thesis*: Menu Optimization with Large-Scale Data.

- 2011  
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- Uğur Şahin, Thesis:** Parameter Optimization of Oscillator-based Technical Analysis Indicators Using Evolutionary Algorithms on Trend-normalized Financial Data.
- Mustafa Uçar, Thesis:** Developing a Two Level Option Trading Strategy based on Option Pair Optimization of Spread Strategies with Evolutionary Algorithms.
- Fatih Arıkan, Thesis:** A Multi-Agent System Model for Company Selection Process in an Ontology-based Virtual Enterprise.
- İlknur Bayram, Thesis:** Three Level Covered Call Options Trading Model Optimized with Evolutionary Algorithms.
- Hatice Tombul, Thesis:** Computational Intelligence Models for Particle Direction and Velocity Estimation in Multi-Phase Flows.
- Recep Bozer, Thesis:** Estimation of the Expected Loss from a Forest Fire by Geographical and Meteorological Parameters using Artificial Intelligence Methods.
- Umur Erkut, Thesis:** Selection of Technical Analysis Indicator for Optimizing Portfolio Performance with Genetic Algorithms.
- H. Ertan Yüksel, Thesis:** Estimation of Flow Properties in Eccentric Annulus using Digital Image Processing and Artificial Intelligence Techniques.
- Gökay Gökser Gül, Thesis:** Object Extraction from Real Time Video Image and an Automated Object Tracking Application.
- İstemihan Şakir Kök, Thesis:** An Indoor Localization System.
- Zeynep Aydın, Thesis:** Estimating Flow Control with Genetic Programming.
- İsmet Bahadır, Thesis:** Stock Market Forecasting based on Bayesian Decision Theory and Artificial Neural Networks.
- Veli Mert Altaş, Thesis:** Extracting the features of Drilling Foams with Image Processing Techniques and Data Analysis using Artificial Neural Networks.

## Academic Activities

### Program / Organizing Committee

- Complex Adaptive Systems Conference, USA, 2011, 2012, 2013, 2014, 2015
- Complexis (International Conference on Complex Information Systems, Italy, 2016)
- Ulusal Karmaşık Dinamik Sistemler ve Uygulamaları Çalıştayı, 2012, 2013

### Journal Refereeing

- Expert Systems with Applications
- Gazi University Faculty of Engineering and Architecture Journal
- Geomatics, Natural Hazards and Risk
- IEEE Transactions on Industrial Informatics
- IEEE Transactions on Parallel and Distributed Systems
- International Journal of General Systems
- International Journal of Intelligent Systems and Applications in Engineering
- International Journal of Mineral Processing
- International Journal of Multiphase Flow
- International Journal of Semantic Computing
- Journal of Petroleum Science and Engineering
- The Engineering Economist



- Politeknik
- Technical Gazette
- Transactions of the Institute of Measurement and Control
- Turkish Journal of Electrical Engineering and Computer Sciences

### Conference Refereeing

- Artificial Neural Networks in Engineering
- Complex Adaptive Systems
- Complexis (International Conference on Complex Information Systems)
- International Conference on Intelligent Control Systems and Signal Processing
- IEEE International Conference on Big Data
- IEEE SİU Sinyal İşleme Uygulamaları
- ELECO - Uluslararası Elektrik-Elektronik Mühendisliği Konferansı
- Turkish Computing Society (TBD) Workshop
- UMTİK - Uluslararası Makina Tasarım ve İmalat Konferansı

## Service Activities

### Scientific Committees

- The Scientific and Technological Council of Turkey, TUBITAK R & D (ARDEB) Project Evaluation Committee
- The Scientific and Technological Council of Turkey, TUBITAK Industrial R & D Committee for Small Enterprises
- Ministry of Science, Industry and Technology, TEKNOGİRİŞİM Startup Business Grant Selection Committee
- Ministry of Science, Industry and Technology, SANTEZ Industrial R & D Committee

### Industrial Project Refereeing / Monitoring

- The Scientific and Technological Council of Turkey, TUBITAK TEYDEB Industrial R & D Project Refereeing
- The Scientific and Technological Council of Turkey, TUBITAK TEYDEB Industrial R & D Project Monitoring
- The Scientific and Technological Council of Turkey, TUBITAK Industrial R & D Center Monitoring
- Turkish Computing Society (TBD) Artificial Intelligence Applications Committee Leader

## University Activities

2009  
2013

**Department Vice Chairman**, *TOBB University of Economics and Technology*, Department of Computer Engineering.

2010

**Institutional Graduate Erasmus Coordinator**, *TOBB University of Economics and Technology*.

2010  
2012

**Faculty Management Committee Member**, *TOBB University of Economics and Technology*, Faculty of Engineering.

2010  
2012

**Web Committee Member**, *TOBB University of Economics and Technology*.

2011  
2012

**ABET Committee Member**, *TOBB University of Economics and Technology*.

2009  
2011

**Undergraduate Program Evaluation Committee Member** , *TOBB University of Economics and Technology.*

2009  
2010

**Undergraduate Registration Committee Member** , *TOBB University of Economics and Technology.*

2006

**Departmental Erasmus Coordinator**, *TOBB University of Economics and Technology*, Department of Computer Engineering.

## Memberships to Professional Societies

- ACM (Association for Computing Machinery) Member
- IEEE (Institute of Electrical and Electronics Engineers) Member
- IEEE Computational Intelligence Society Member

## Industrial Experience

2001  
2005

**Senior Programmer/Analyst**, *MEMC Electronics Inc.*, St.Louis MO, USA.

Worked as a member of the Data Automation and Manufacturing MIS Group. Responsibilities include project leading, software development, maintaining and reporting for the plant-wide data collection and automation systems.

Highlights:

- Investigated hardware and software platforms to determine approved devices for special client needs and provided the appropriate requirements;
- Developed GUIs and APIs for wafer manufacturing and test equipments for engineers and technicians;
- Developed three-tier systems (Windows-Unix-Oracle) for client/server applications for data retrieval, querying and reporting tools for plant-wide usage;
- Developed low-level services for wafer manufacturing equipments and processes;
- Provided 24/7 technical assistance for the developed data automation systems;
- Implemented Software Development Life Cycle (SDLC) model in every stage of the software development process during the automation projects;

Noteworthy Projects and Tasks:

- Team Leader in Automated Label Printing System for Wafer Cassette Labels Project (VB, ActiveX, SQL, SAP)
- Team leader in Lasermark Verification Application Project for wafer mix prevention (CellWorks, SQL);
- Team leader in ADE Wafer Thickness and Resistivity Automated Data Collection and GUI development (CellWorks, SQL, VB);
- Tencor and CR80 Wafer Particle Count Data Collection System (Cellworks, SQL);
- Final Shipping Automated Shipment Verification Application (C);
- Automated SPC System and GUI Development in Etching, Lapping and Polishing Departments (VB, Cellworks, SQL);

2001

**Software/Database Engineer**, *Vizyonsoft, contracted to ARIA Mobile Serv.*, Istanbul, Turkey.

Worked as a member of the Infrastructure, Software and Database Technical Support team for the newly-formed third mobile telecom service provider in Turkey for a 4 month project

1997  
2001

**Software Engineer/Consultant**, *Beyond Inc. contracted to MEMC Electronics Inc.*, St.Louis MO, USA.

Worked as a consultant/project manager in MEMC QRDAP (Quality Renewal Data Automation Project) and developed data collection / process control applications

1996  
1997

### **Product Development Engineer, Beyond Inc., St.Louis MO, USA.**

Worked on developing specific hardware/software tools for enhancing wafer manufacturing data automation systems and also implemented various in-house software applications.

Highlights:

- Implemented the design and development (hardware and software) of Silicount (Wafer Counter) which is an automated wafer counting device using opto-electronic circuitry to provide the capability of touchless accurate wafer count in a cassette which is crucial in Silicon Wafer Manufacturing Industry. Several of them are being used on production floor in MEMC Electronics.
- Developed the software and database for Beyond Inc. Inventory Control and GUI;
- Developed an expert system for parts and components identification for wafer polishing equipments;

1995  
1996

### **Industrial Engineer, Marathon Electric Co., West Plains, MO, USA.**

Worked as a co-op industrial engineer in electrical motor production facility. Responsibilities include the development of the production standards for various departments, MTM studies, process design and maintenance, factory layout, scheduling and routings

1991

### **Technical Department Manager, Senkron Apple Center, Ankara, Turkey.**

Responsibilities include organizing the technical service and the distribution of Apple Computers to several private and government offices in Ankara. Management of technical support, presentations, developing in-house software, building systems and networks, installations and troubleshooting for Apple computer systems were also included in the job duties

1990

### **Intern Electrical Engineer, Vega Electromech Systems Inc., Ankara, Turkey.**

Worked on technical support and installation of biomedical systems, such as sterilizers, ECG systems, surgical instruments, etc.

1989

### **Electrical Engineering Summer Practice, Gold Fields of South Africa, Johannesburg, RSA.**

Worked in the project group on planning and developing the power distribution of Kloof Gold Mine, one of the largest in the world

## **Computer Skills**

**Systems** Windows, UNIX, Linux, Apple OS

**Program** Java, Python, C, C#, C++, Pascal, Fortran, Visual Basic, Prolog

**Web** HTML/XHTML, Javascript, PHP, ASP, FrontPage, Dreamweaver

**Office** Word, Excel, Powerpoint, OpenOffice

**Database** MS Access, MSSQL, MySQL, Post- GreSQL, SQLite, PL-SQL, Oracle

**Scientific** Matlab, Mathcad

**Analysis** WEKA, R, Tanagra, Neurosolutions

**Imaging** Coreldraw, Photoshop, Pagemaker, XView, GIMP

**Automation** Cellworks, Factoryworks

**Project M.** MS Project, Git

**Source Ctr** SVN, Github

**Other** Bibtex, L<sup>A</sup>T<sub>E</sub>X, T<sub>E</sub>X

## **Languages**

Turkish **Native**

*Mother Tongue*

English **Fluent**

*Daily practice, All work performed in English*

Polish **Beginner**

*Some practice, One semester beginning level class*

## **Certificates and Achievements**

○ Sun Java Programmer Certificate

○ Top %0.1 in National Centralized University Entrance Examination in Turkey

- 3<sup>rd</sup> place in TUBITAK Mathematics Competition for Middle School Students in Central Turkey Region
- 2<sup>nd</sup> place in TUBITAK Chemistry Competition for High School Students in Central Turkey Region
- Licensed DJ in 89.7 FM KMNR-Rolla, MO, USA

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## References

- Available upon request