

R Murat DEMİRER

[Senior Assistant Professor, FMV Işık University Engineering and Natural Sciences Faculty, Electrical and Electronics Engineering Dept. Biomedical Engineering Program, **formerly associate professor at University of Memphis and University of Arkansas at Little Rock, UALR**]

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<https://www.webofscience.com/wos/author/record/AAQ-1963-2021>

EDUCATION

- [1976-80] - B.Sc.E.E, Electrical Engineering Department, Kocaeli Engineering Faculty Yıldız University, Turkey
- [1980-82] - M.Sc.E.E, Electrical Faculty, Istanbul Technical University Turkey]
- [1984-2002] - Ph.d.B.M.E, Biomedical Engineering Institute, Boğaziçi University Turkey
- [1993 – 1994]- 1 Year Graduate Certification Program Biomedical Engineering, Ohio State University, USA
- [2002-2005] – Post-doctoral Research, University of Memphis, FedEx Intelligent Institute and Biomedical Engineering Department, Memphis, TN USA

WORK EXPERIENCE (Last 10 year listed)

- **[2019- cont'd] Senior Assistant Professor**, FMV Işık University Engineering and Natural Sciences Faculty. Electrical and Electronics Engineering Dept. Biomedical Engineering Program
- **[2019-continued] Adjunct Faculty, *Uskudar University***, Therapeutic Brain Mapping and Neurotechnology Working Group & Bahcesehir University Neuroscience Graduation Research Working Group (brain surgery), Medical Faculty, Istanbul
- **[2019-continued] Bahcesehir University, Adjunct Faculty, Artificial Intelligence Engineering Department**, <https://bau.edu.tr/content/16070-about-artificial-intelligence-engineering-department>, **Biomedical Engineering Dept.** and **Cyber Security Master Program** <https://bau.edu.tr/content/9270-cyber-security-english-thesis-non-thesis-program-definition>

- **09/01/1980-09/01/1987** Research Assistant and Lecturer, Kocaeli University, Engineering Faculty, Electronics and Communication Engineering Department, Istanbul, Turkey
- **09/01/1987- 09/01/1991** System Design Engineer and Project Manager (long haul fiber optic communications), Netaş-Northern Telecommunication Research and Development Division Umraniye Istanbul, Istanbul, Turkey
- **09/01/1992-02/28/2000** Lecturer with Computer Engineering Department, **Istanbul University Engineering Faculty Computer Engineering Department**, Istanbul, Turkey and Program Chairman of Biomedical Equipment Technology Department with **Istanbul University Community college** and Biomedical Technician Curriculum developer for World Bank Program in Turkey
- **06/01/1994-10/1/1994** [1994 June-October] **Research Associate, Ohio State University Neurology Department** (Prof. Miles Drake) -Classification of Epileptic Seizures
- [2000] Visiting Researcher **Kosugi Laboratory** Tokyo Institute of Technology JAPAN
- [2000 -2013] - Assistant Professor, **Istanbul Kultur University, Science and Letters Faculty, Mathematics and Computer Science Department, and Engineering Faculty, Computer Engineering Department**, Atakoy Campus Istanbul Turkey 34156

Role: Developed and delivered following courses and lecture notes to undergraduate and graduate students, demonstrating teaching excellence and high-impact scholarship. Supervised and mentored undergraduate and graduate computer engineering and mathematics-computer science students.

CSE 037 Digital Signal Processing
 CSE 022 Cryptography
 CSE 044 Artificial Intelligence
 CSE023 Expert and Knowledge Based Systems
 CSE0536 Information Systems Security (Graduate Course)
 CSE 8404 Undergraduate Projects
 CSE 3203 System Programming and Assembly Language
 CSE 4124 Programming Language Concepts
 FBM031 Machine Learning (Graduate Course)

- **8/23/2007-10/1/2008** **Research Associate Professor in Computer Science, the University of Arkansas at Little Rock** (UALR) Dickinson Hall 512, 2801 South Univ. Ave. Little Rock, 72204, Arkansas, USA

Role: Polymorphic Encryption Development Project (US Department of Defense project)

- **10/13/2008-10/13/2009** **Research Associate Professor**, University of Memphis, Mathematics Department and FedEx Intelligent Institute 365 Innovation Drive Memphis, TN 38152-3115

Role: (US Air Force Project) I worked in the bionic eye and Complicated Combat Project to develop unique concepts and intelligent solutions for dynamically changing complex warfare scenarios.

- **[2015-2019]** Üsküdar University, Engineering, and Natural Science Faculty, Industrial Engineering Dept. **Head of Industrial and Systems Engineering Dept.**) and member of Therapeutic Brain Mapping and Neurotechnology Working Group, Üsküdar -İstanbul
- **10/01/2013-03/01/2015** - Assistant Professor, Gelisim University, Engineering and Architecture Faculty, **Head of Computer Engineering Dept.** Avcılar -Istanbul
- **02/01/2000-09/01/2013**- Assistant Professor, **Istanbul Kultur University, Science and Letters Faculty, Mathematics and Computer Science Department**, Engineering Faculty, Computer Engineering Department, Atakoy Campus Istanbul Turkey 34156
<https://acikerisim.iku.edu.tr/browse?type=author&value=Demirer,%20R.%20Murat>

RESEARCH INTERESTS

The study of theoretical models of neurodynamics and brain networks is a primary focus of research in the field of biomedical engineering. I have been working on developing computational paradigms for a new generation of brain-inspired computers; with NASA, I had been involved in autonomous robot control for the prototype Mars Rover that was developed at the University of Memphis with Prof. Robert Kozma's group in the years 2002–2005. At the moment, I'm particularly interested in the neural correlates of higher cognition, such as intelligence and consciousness.

Machine learning with applications to complex theory, optimization, and statistical learning are areas of interest of mine, as are hyperbolic algebra, phase transitions, and tropical algebraic geometry. Focusing on this new structure of machine learning techniques with big biological data is where I want to put much of my energy. Algebra and simplicial complexes, along with their persistent homology, are powerful tools that could pave the way for exciting new developments in machine learning.

My research improves how brains learn and make decisions at multiple hierarchical levels in an efficient and interpretable manner using dispersive EEG and fMRI oscillations and fusion, which can be applied to analyzing of human movement and EMG/EEG data. My research strategy will be centered on understanding plasticity by utilizing the biological intelligence of the brain at multiple hierarchical spatial and temporal scales. I demonstrated that attractors, non-linear oscillations, phase-amplitude coupling-based synchronization, and chaos mechanisms exist in the brain and contribute to cognition and decision-making. Metastable dynamics exhibits a scale-invariant global model ranging from low-dimensional waves to high-dimensional phase dispersion manifolds with energy induction. There is no local distinction between fast (gamma band) and slow time scales. In intelligence, hyperbolic periodic orbits and flows in non-gradient systems, as well as small-noise-induced metastable transitions, can play important roles. I investigate more physiologically plausible models of learning, focusing on unsupervised learning but proposing a learning and control mechanism that could account for supervised, unsupervised, and reinforcement learning. Deep learning methods differ from the brain's systems neuroscience level, which includes algorithms, structures, network systems, functional dynamics, and representations. I'm fascinated by brain network systems that use phase transitions and synchronizations as emergent dynamics

Research Project and Theses supervisions and leadership experience

- **Offensive language detection in Turkish language by using NLP, Master of Science Thesis, Bekir Furkan Kesgin, June 2023, Computer Engineering, Bahcesehir University**
- **“Unraveling EEG Complexity: A Potential Biomarker for Predicting Treatment Resistance in Obsessive Compulsive Disorder”, Zehra Nur Yıldırım, 180209038, Graduation Project, June 2023, Uskudar University, Engineering and Natural Sciences Faculty, Software Engineering**
- **“Liquidity Risk In Islamic Banks: A Machine Learning Approach”, HALAH AHMED BAHANSHAL, August 2022, M.Sc. thesis, Bahçeşehir University**
- **“Algorithmic Analysis of Constant Delay Between Audio Signals in Multichannel Music Records” (Mismatch negativity(MMN) effect for Auditory Evoked Potentials) Bahcesehir University,” Bengi Derya Muşdal, 22 April 2016**
- **Turbulence of Markets Big Data Analytics and Management, Ufuk Altan Spring 2022, M.Sc Capstone Project, Bahcesehir University**
- **“Makine öğrenme yöntemleri yardımıyla tüketim istatistiklerine göre talep tahmini / Load forecasting by machine learning methods, Author: MURATCAN ATALAY (İstanbul Kültür University Muratcan Atalay- MSc. Thesis 2013)**
- **“An Online Credential Repository for Role Based-Delegation” A Master of Science Thesis submitted to the Graduate School University of Arkansas at Little Rock, December 2008 by GuangXu Zhou**
- **“Parameter Sensitivity Analysis of Different Cardiac Ventricular Cells” Master of Science Thesis by Jing Zheng December 2004**
- University of Memphis **“Optimization of EEG Analysis for the detection of Cognitive Phase Transitions”** Master of Thesis by Mark Myers May 2005 University of Memphis
- **System for adaptive extraction for non-invasive fetal electrocardiogram, (Zeynep Arlı 2022 Spring B.Sc. BME, Isik University Biomedical Engineering co-supervisor Prof. Dr. Yorgo I Stefanopoulos, won Dean’s Award)**
- **fMRI Denoising of Brain Activity Using The Public BOLD5000 fMRI Dataset (Berçin Turgut 2022, Spring B.Sc. BME, Isik University Biomedical Engineering)**
- **Signal Processing Approach in BCI (Brain Computer Interface) (Başak Arslan, Eda Nur Alkan 2022,B.Sc. BME, Isik University Biomedical Engineering, co-supervisor Prof. Dr. Yorgo I Stefanopoulos)**
- **tDCS-Transcranial Direct Current Stimulation ,Yakup Batuhan Dursun, Spring 2022,B.Sc. BME, Isik University Biomedical Engineering**
- **E-health in Intensive Care Unit using MIMIC Database, Tuna Kanlioglu,2022 Spring B.Sc. BME, Isik University Biomedical Engineering**

- **Optical Coherence Tomography Interpretation for Diagnosis of Ophthalmic Diseases**, Buse Nur Eđerci, 2022, Autumn, B.Sc. BME, Isik University Biomedical Engineering
- **Analysis of Cardio-Pulmonary Interactions in ICU from MIMIC-III Database**, Osama Okasha, 2022, Autumn, B.Sc. BME, Isik University Biomedical Engineering (<https://archive.physionet.org/>)
- **Understanding single-channel Brain MR Image Reconstruction Using Deep Learning**, Habiba Ali Sabrah Galal Abdellah, 2021 Spring, Autumn, B.Sc. BME, Isik University Biomedical Engineering, co-supervisor Prof. Dr. Yorgo Istefanopulos
- **ECG Signal Classification Based on Deep Learning**, Israa Sharaby, 2021 Spring, Autumn, B.Sc. BME, Isik University Biomedical Engineering, co-supervisor Prof. Dr. Yorgo Istefanopulos
- **Non-invasive Fetal ECG Arrhythmia Database**, Gulden Kara, Fulya Kilickaya, 2020 Spring, Autumn, B.Sc. BME, Isik University Biomedical Engineering, co-supervisor Prof. Dr. Yorgo Istefanopulos
- **Biomedical Data Analysis in Intensive Care Units**, G.Naz Pulat, 2020 Spring, B.Sc. BME, Isik University Biomedical Engineering, co-supervisor Prof. Dr. Yorgo Istefanopulos
- **Hardware Supported Column Level Database Encryption**, Ahmet Esad Polat, Undergraduate thesis, Uskudar University Computer Engineering Department, 2018
- **Artificial Intelligence and Machine Learning in Intensive Care Unit Patients**, Bahar Citir, Tugce Aktas, Isik University Biomedical Engineering 2018, Undergraduate thesis
- **Association of spontaneous EEG brain activity with X-ray Lung Images in COPD patients**, Burak Tarhan, 2018, Isik University Biomedical Engineering, Undergraduate thesis
- **EEG evaluation of Depression Patients between no rTMS (Repetitive Transcranial Magnetic Stimulation) and after rTMS periods**, Beritan Solmaz, Uskudar University, Bioengineering Department

Number of Publications: 34 (18 of them are SCI)

Number of Citations Received (without self-citations): <117

H-Index: 6

PATENT and PROJECTS

- Patent: Right Transfer Certificate Addressed to: Mitsubishi Electric Co and the Technology Licensing Organization of Tokyo Institute of Technology, named "Rikougaku Shinkoukai" Title of Invention: System for Disaster Prediction (Earthquake Prediction using MRI systems)
- ODTÜ-TUBİTAK AR-GE Pazarı (Research Market Project) Projesi (13-14 Haziran 2002)

- Cog-MIMO RadioNet Cognitive MIMO Radio Network R. MURAT DEMIRER ISTANBUL KÜLTÜR ÜNİVERSİTESİ Turkey 29-30 Ocak 2007 FP7 ICT
- Researcher, National CORS (GPS-Continuously Operating Reference Stations) - Principal Investigator Prof.Dr.Turgut Uzel
- DPT Grant Application: Yapay Zekâ Tabanlı Otomasyona Dayalı ve Kamu Kesiminde Çalışan Hekimlere Tetkik, Tami Koyma ve Tedavi Konusunda Yardım Eden Klinik Karar Destek Sistemi, Artificial Intelligent based automated clinical decision support system for helping to physicians who are working in Government based Medical Institutions

LIST OF PUBLICATIONS

(Applicant's name must be shown in bold – Indicate the index in which the publication appears, e.g. SCI, SCI-E, AHCI, SSCI, etc.)

1. **Demirer, R.M** , Beyhan Kıran, EEG sinyallerinin Banach Uzayında Graf-Kuramsal Bağlantı Değişmezlik Ölçütleri (Graph-theoretical connection invariance measures of EEG signals in Banach space) id- no. 1013780, accepted (2023), Gazi Üniversitesi Mühendislik Mimarlık Fakültesi Dergisi, Q3
2. **Demirer, R.M.**, Kesebir, S. The entropy of chaotic transitions of EEG phase growth in bipolar disorder with lithium carbonate. Sci Rep 11, 11888 (2021). <https://doi.org/10.1038/s41598-021-91350-9>, **Springer Nature**
3. Sermin Kesebir, Sultan Tarlacı, **Rüştü Murat Demirer**, Nevzat Tarhan Response to venlafaxine on EEG in unmedicated bipolar depression: which entropy, up or down? ,DOI 10.36148/2284-0249-411 The Journal of Psychopathology , Issue 4-2021
4. S. Kesebir, **R.M. Demirer**, N. Tarhan, CFC delta-beta is related with mixed features and response to treatment in bipolar II depression, Heliyon, Volume 5, Issue 6, 2019, e01898, ISSN 2405-8440
5. Güven S, Kesebir S, **Demirer MR**, Bilici N. EEG Spectral Power Density in First Episode Mania:A comparative study with subsequent remission period. Archives of Neuropsychiatry 2015; 52(2) doi: 10.4274/npa.y7180
6. Bayazit Karaman, **R. Murat Demirer**, Coskun Bayrak; and M. Mert Su“Modeling the Antipodal Connectivity Structure of Neural Communities” AIMS Neuroscience, 3 (2): 163–180 DOI: 10.3934/Neuroscience.2016.2.163
7. Hilbert-Huang Transform in Detecting and Analyzing the Contraction Activities in Uterine" Journal of The Turkish German Gynecological Association. Manuscript ID is JTGGA-2015-0021.R2.2016, R Murat Demirer
8. Kesebir, S., and **R. M. Demirer**. "EEG coherence of drug-free and drug related patients with bipolar disorder." BIPOLAR DISORDERS 17 (2015): 82-82.
9. Yunus Ziya Arslan, **RustuMurat Demirer**,Deniz Palamar,Mukden Ugur, and Safak Sahir

- Karamehmetoglu, Comparison of the Data Classification Approaches to Diagnose Spinal Cord Injury , Computational and Mathematical Methods in Medicine Volume 2012 (2012), Article ID 803980
10. Robert Kozma, Lan Wang, Khan Iftekharruddin, Ernest McCracken, Muhammad Khan, Khandakar Islam, Sushil R. Bhurtel and **R. Murat Demirer**, A Radar-Enabled Collaborative Sensor Network Integrating COTS Technology for Surveillance and Tracking, 2012, Sensors 12(2), 1336-1351; doi:10.3390
 11. GuangXu Zhou, **Murat Demirer**, Coskun Bayrak, Licheng Wang, Enable delegation for RBAC with Secure Authorization Certificate, 2011, Computers and Security 30(8), 780–790.
 12. Sergey Borisenok, M. Hakan Erkut, Yasar Polatoglu, and **Murat Demirer**, Multi-dimensional Weiss operators 2011, Turk J Math 35 (2011) , 687 694
 13. Flash Evoked Potentials in Epilepsy Miles E. Drake Jr., **R. Murat Demirer**, Gunwant S. Mallik, Journal of Clinical Neurophysiology, 1996 September 1996, 13(5):449.
 14. Classification of imaginary movements in ECoG with a hybrid approach based on multi-dimensional Hilbert-SVM solution, Journal of Neuroscience Methods **R. Murat Demirer**, Mehmet Sirac Ozerdem, Coskun Bayrak, 2009
 15. A new hybrid nonlinear congruential number generator based on higher functional power of logistic maps, Chaos, Fractals and Solitons Songul Cecen, **R. Murat Demirer** and Coskun Bayrak, 2008
 16. R. Kozma, D. Wong, **M. Demirer**, Freeman W.J. Learning Intentional Behavior in the K-model of the Amygdala and Entorhinal Cortex with the Cortico-Hippocampal Formation, Neurocomputing 2005
 17. F.N. Oktar, M.R. Demirer, O. Gunduz, Y. Genc, S. Agathopoulos Sintering Effect on mechanical properties of Composite Bovine Hydroxyapatite (BHA) and Li₂O Key Engineering Materials Vols.309-311(May 2006) pp.49-52
 18. Mehmet Sirac Ozerdem, Berk Ustundag, **R. Murat Demirer** “Self Organized Maps Based Neural Networks for Detection of Earthquake Precursory Electric Field Patterns” Advances in Engineering Software 37(2006) 207-217
 19. **R. Murat Demirer**, Yukio Kosugi and H. Ozcan. Gulcur “The Determination of the Evoked Potential Generating Mechanism Based on Radial Basis Neural Network Model IEICE Transactions”, Vol.E83-D, No.9 pp.1819-1823 (2000)
 20. Jing-Yeh Wah, Rifat Yenidunya, A Boland-Thoms, **R.M. Demirer** “Discussions of Suitable Modulation Schemes for a bi-directional Hot Electron Light Emitter and Absorber”, IEE Proceedings Optoelectronics (2002)

Peer-reviewed conference articles

21. **R. M. Demirer** and O. Demirer, “Early Prediction of Sepsis from Clinical Data Using Artificial Intelligence” 2019 Electric Electronics, Computer Science, Biomedical Engineerings' Meeting (EBBT), Istanbul, 2019, IEEE Conference
22. **R. M. Demirer** and O. Demirer, "Inherent biological adaptive control of feedback gain of circadian rhythms in a mathematical model: Stabilization of the sustained oscillations in a mRNA-protein model," 2017 Electric Electronics, Computer Science, Biomedical Engineerings' Meeting (EBBT), Istanbul, 2017, pp. 1-4. doi: 10.1109/EBBT.2017.7956779 IEEE Conference
23. **R. M. Demirer** and O. Demirer, "A numerical bifurcation analysis of circadian rhythms in Pacemaker Neurons: RNA-protein synthesis modeling analysis", IEEE Conference, 2016 DOI:

10.1109/EBBT.2016.7483694

24. **R Murat Demirer**, Esin Guvenir, Capturing Sub-Similarities among proteins (CSAP):A Mathematical Review on Blaschke Products using Bio3D AIP Conf. Proc. 1326, 65 (2011)
25. Egemen Berk Cimen, Fatih Akin, **R Murat Demirer**, Sub-similarity Matching Based on Data mining with Dihedral Angles International Conference on Intelligent Biology and Medicine (ICIBM 2012)
26. **Rustu Murat Demirer**, Robert Kozma, Mert Caglar and Yasar Polatoglu, A new nonlinear filter design for the detection of phase transitions in ECoG data 2009 International Joint Conference on Neural Networks and for publication in the conference proceedings published annually by IEEE
27. **Rustu Murat Demirer**, H.O Gulcur Estimation of Single Evoked Potentials by means of NARMAXmodel and Neural Network Structure International Digital Signal Processing Applications and Technology Conference Berlin 1991
28. **Rustu Murat Demirer**, H.O Gulcur Identification of Evoked Potential activated by visual stimulation using feedforward neural network modelling technique TAINN 1995, Department of Computer Engineering and Information Science Bilkent University
29. **Rustu Murat Demirer**, H.O Gulcur An RBF approach to single trial VEP estimation IEEE 2nd International Biomedical Engineering Days
30. O. Demirer, **R.M.Demirer** Biological Hazards of Low Power(weak) Pulsed Electromagnetic Radiation in humans caused by GSM base station cell towers ISIK 2000 Workshop on Biomedical Information Engineering, pg.165-170, 25-27 June 2000.
31. **R.Murat Demirer**, Robert Kozma, Walter Freeman, Hilbert transform optimization to detect phase transitions on cortex in beta-gamma band Fourteenth Annual Computational Neuroscience Meeting Madison, Wisconsin, USA. July 17 - 21,2005
32. Chia-Chu Chiang, Coskun Bayrak, Remzi Seker, Umit Topaloglu, **Murat Demirer**, Nasrola Samadi, Suleyman Tek, Jiang Bian, GuangXu Zhou, Xiaoran Wang, Design of a Lattice-based Access Control Scheme SMC 2009 68-73
33. Polatoglu, Y., Çaglar, M., & Demirer, R.M. (2006). Schwarzian Derivative Revisited.
34. Demirer, Rustu Murat, Mert Çaglar, Yasar Polatoglu and Oya Demirer. "Does A Chaotic System Dynamic Really Exist In Nature Or Is It A Misconception Dynamics?: A Hypothesis." (2006).

Dergi Park

35. **Demirer, R. M.** (2022). A New Novel Synchronization Index of Brain Networks in Hyperbolic EEG Dynamics. Sakarya University Journal of Science, 26 (3), 600-607. DOI: 10.16984/saufenbilder.999015

Book Chapter:

36. Title: Intentional Navigation and Phase Transition Analysis in Amygdala of KIV Model

Document Number: 2005-01-3381 SAE 2005, Ming Chuen (Derek) Wong - Univ. of Memphis, Mark Myers - Univ. of Memphis, Robert Kozma - Univ. of Memphis, **R. Murat Demirer** Univ.of Memphis

Patent :

37. Right Transfer Certificate Addressed to: Mitsubishi Electric Co and the Technology Licensing Organization of Tokyo Institute of Technology, named "Rikougaku Shinkoukai" Title of Invention: System for Disaster Prediction (Earthquake Prediction using MRI systems)

LIST OF FUNDED RESEARCH PROJECTS

- [2003-2005]- Post-doctoral researcher, NASA Grant, University of Memphis, Memphis, Istanbul, Principal Investigator Prof.Dr.Robert Kozma, USA
- [2008-2009] Research Associate Professor, University of Memphis, Memphis, USA, US Air Force Grant (Complex Warfare Systems), Principal Investigator: Prof.Dr.Robert Kozma
- [2007-2008] Research Associate/Assistant Professor, University of Memphis, Memphis, USA, US Department of Defense Department of Defense-DoD Grant (Polymorphic Encryption), Principal Investigator: Prof.Dr.Coşkun Bayrak, USA
- [2006-2007] Researcher, Istanbul Kültür Üniversitesi, National CORS(GPS-Continuously Operating Reference Stations) - Principal Investigator: Prof.Dr.Turgut Uzel

COURSES TAUGHT

[Institution – Academic Year – Course Name, Level]

Bahçeşehir University (BAU)

BAU Biomedical Engineering Dept -2023 Spring -EEE 3501 Signals and Systems, Undergraduate

BAU Artificial Intelligence Engineering Dept -2020-22 Autumn - CMP5103 Artificial Intelligence -Autumn-Graduate

BAU Artificial Intelligence Engineering Dept -2020-22 Autumn - ARI5002 Optimization for Artificial Intelligence -Spring- Graduate

Üsküdar University

Electrical-Electronics Engineering Dept -2022 Autumn - EE414 Introduction to Signal Processing, Undergraduate

Işık University Engineering and Natural Sciences Faculty-Biomedical Engineering Department 2015-2022 (3 years adjunct+ 3 years full-time)

I also was supervised to undergraduate projects to work with large biomedical datasets (MIMIC, OCT and sleep EEG), develop and evaluate machine learning algorithms, and implement data visualizations MATLAB

and Python tools for advanced medical imaging and signal processing technologies.

BME 421 Medical Imaging (Autumn)- Undergraduate

BMED 1101 Introduction to Biomedical Engineering-Undergraduate

ELEC 1401 Logic Design (Autumn)- Undergraduate

BMED3304 Therapeutic Medical Devices (3)-Undergraduate

BMED3501 Biosignal Processing (3)-Undergraduate

BMED3501 Biosignal Processing Lab-Undergraduate

BMED4804 BioDesign:Methods for Innovation in Biomedical Engineering (3)-Undergraduate

Üsküdar University Siber Güvenlik Yüksek Lisans Programı 2020-21 Academic Term

Siber Güvenlik (Tezli) / Ağ Güvenliği (Network Security), Yüksek Lisans (Graduate)

Siber Güvenlik (Tezli) / Kriptografiye Giriş (Introduction to Cryptography), Yüksek Lisans (Graduate)

Yapay Zeka Mühendisliği (Tezli)/Sayısal Görüntü İşleme (Image Processing), Yüksek Lisans (Graduate)

Üsküdar University 2015-2019 Academic Term (Industrial Engineering Dept.)

ISE491 Graduation Project- Undergraduate

BM492 Graduation Thesis- Undergraduate

IE314 Predictive Analysis- Undergraduate

ISE226 Operations Research II- Undergraduate

ISE292 Bivariate Introduction to Ind. Engineering and OR- Undergraduate

ISE324 Modeling and Simulation- Undergraduate

IE101 Introduction to Industrial Engineering- Undergraduate

IE215 Operations Research I- Undergraduate

ISE333 Data Science and Analytics- Undergraduate

ISE421 Robotics- Undergraduate

Istanbul Kultur University Period (Computer Engineering Department) 2000-2013 excluding\ leave-of-absence 4.5 years in the USA

CSE 0536 Information System Security-Graduate

CSE 037 Digital Signal Processing-Undergraduate

CSE 003 Embedded Systems-Undergraduate

CSE 023 Expert and Knowledge-based Systems-Undergraduate

CSE 022 Cryptography-Undergraduate

CSE 044 Artificial Intelligence-Undergraduate

CSE 891 Graduation Project-Undergraduate

Istanbul University Engineering Faculty Computer Engineering Department Period-1993-1997

Introduction to Computer Engineering - I

Introduction to Computer Engineering - II

Numeric Analysis

Logic Circuits - I

Logic Circuits - II

Voice and Image Recognition

Counselor mentor

Gorkem Sarigul, Erdem Tatli, Semih Çelik, Head of Computer Engineering Department, Prof. Dr. Advised by Coşkun Bayrak and Assist. Assoc. Dr. The SEG Robotics Group, by R. Murat Demirer as a counselor, With the M.I.D.A.S ROBOT (Brain Controlled Prosthesis Arm) Project, Turkey won the 1st prize in the ITU Robot Competition and **World Prize 2 in the Robotics Championship in America (ROBOGAMES)**. (IKU Announcement 3 May 2012)

LIST OF REFERENCES

1. **Yorgo Istefanopulos**, Emeritus Professor, Faculty Member, Işık University, Turkey, E-mail address: yorgo.istefanopulos@isikun.edu.tr
2. **Robert Kozma**, Prof.Dr., Editor-In-Chief of IEEE Transactions on Systems, Man, and Cybernetics: Systems,USA, rkozma@memphis.edu
3. **Uğur Sezerman**, Prof.Dr., Sezerman Lab, Acibadem University Medical Faculty, Istanbul Turkey, ugur.sezerman@acibadem.edu.tr

