

Assoc. Prof. MUSTAFA BORAHAN TÜMER

Personal Information

Email: borahan.tumer@marmara.edu.tr

Web: <https://avesis.marmara.edu.tr/borahan.tumer>

Biography

Following a seven year highschool education in İstanbul Erkek Lisesi, Prof. Tümer received both his B.Sc. and M.S. degrees in Computer Engineering from Boğaziçi University and İstanbul Technical University in 1987 and 1990, in respective order. After three years as a graduate assistant in the computer engineering department at the Faculty of Engineering, Marmara University, he pursued and received his Ph.D degree, with a scholarship from the Higher Education Council, in Electrical and Computer Engineering at Marquette University, Milwaukee, Wisconsin, in 1998. He has been a faculty member at the Faculty of Engineering at Marmara University since 1998 where he currently serves as an Associate Professor at the Department of Computer Engineering.

His research interests include machine learning, syntactic pattern recognition, non-stationary signal processing and sequential decision making with an emphasis on reinforcement learning.

He likes photography, trekking, playing guitar, traveling and is a good listener of latin jazz.

Education Information

Doctorate, Marquette University, Elektronik Ve Bilgisayar Mühendisliği, United States Of America 1991 - 1998

Post Graduate, İstanbul Technical University, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği, Turkey 1987 - 1990

Under Graduate, Boğaziçi Üniversitesi, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, Turkey 1983 - 1987

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, A Fuzzy Syntactic Approach to Fault Diagnostics By Analysis of Time Sampled Signals, Marquette University, Faculty of Engineering, Department of Electrical and Computer Engineering, 1998

Post Graduate, A System Development Kit and Software Tool for Microcontroller 6805S1, İstanbul Technical University, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği, 1990

Research Areas

Artificial Intelligence, Computer Learning and Pattern Recognition

Academic Titles / Tasks

Associate Professor, Marmara University, Faculty of Engineering, Computer Engineering, 2006 - Continues
Assistant Professor, Marmara University, Faculty of Engineering, Computer Engineering, 1999 - 2006
Research Assistant, Marmara University, Faculty of Engineering, Computer Engineering, 1991 - 1999

Courses

Data Structures (Veri Yapıları), Under Graduate, 2019 - 2020
Machine Learning (Yapay Öğrenme), Post Graduate, 2019 - 2020
Software Engineering (Yazılım Mühendisliği), Under Graduate, 2018 - 2019

Advising Theses

TÜMER M. B. , Multivariate time series clustering using variable order markov models and its applications on cyber-physical systems, Post Graduate, B.Gün(Student), 2019
Tümer M. B. , MULTI-CLASS CATEGORIZATION OF USER-GENERATED CONTENT IN A DOMAIN SPECIFIC MEDIUM: INFERRING PRODUCT SPECIFICATIONS FROM E-COMMERCE MARKETPLACES, Post Graduate, K.TOPRAK(Student), 2019
Tümer M. B. , Reinforcement learning in non-stationary environments using spatiotemporal analysis, Post Graduate, B.MUHAMMED(Student), 2017
Tümer M. B. , Adaptive data compression in networks: A learning automaton approach, Post Graduate, E.BAYDOĞAN(Student), 2001

Jury Memberships

PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Marmara Üniversitesi, September, 2019
PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Boğaziçi Üniversitesi, June, 2019
PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Boğaziçi Üniversitesi, January, 2019
PhD Thesis Monitoring Committee Member, PhD Thesis Monitoring Committee Member, Marmara Üniversitesi, April, 2018

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **An adaptive signal compression system with pre-specified reconstruction quality and compression rate**
Tumer M. B. , Demir M.
COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE, vol.81, pp.99-105, 2006 (Journal Indexed in SCI)
- II. **A syntactic methodology for automatic diagnosis by analysis of continuous time measurements using hierarchical signal representations**
Tumer M. B. , Belfore L., Ropella K.
IEEE TRANSACTIONS ON SYSTEMS MAN AND CYBERNETICS PART B-CYBERNETICS, vol.33, pp.951-965, 2003
(Journal Indexed in SCI)

Books & Book Chapters

- I. **Signal Compression Using Growing Cell Structures: A Transformational Approach**
Tümer M. B.

Refereed Congress / Symposium Publications in Proceedings

- I. **Multi-class categorization of user-generated content in a domain specific medium: Inferring product specifications from e-commerce marketplaces**
Toprak Uçar K., TÜMER M. B. , Kırac M.
International Conference on Intelligent and Fuzzy Systems, INFUS 2019, İstanbul, Turkey, 23 - 25 July 2019, vol.1029, pp.247-256
- II. **Unsupervised Mode Detection in Cyber-Physical Systems using Variable Order Markov Models**
Surmeli B. G. , Eksen F., Dinc B., Schuller P., Tumer B.
15th IEEE International Conference on Industrial Informatics (INDIN), Emden, Germany, 24 - 26 July 2017, pp.841-846
- III. **Detection of Regime Switching Points in Non-Stationary Sequences using Stochastic Learning based Weak Estimation Method**
Aslanci E., Coskun K., Schuller P., Tumer B.
15th IEEE International Conference on Industrial Informatics (INDIN), Emden, Germany, 24 - 26 July 2017, pp.787-792
- IV. **Hierarchical Reinforcement Learning with Context Detection (HRL-CD)**
Tümer M. B. , Yücesoy Y. E.
International Conference on Machine Learning and Computing, Florence, Italy, 19 - 20 March 2015, vol.5, no.5, pp.353-358
- V. **Signal compression using growing cell structures: A transformational approach**
BOZ B., TÜMER M. B.
Computer and Information Sciences - ISCIS 2003, Antalya, Turkey, 3 - 05 November 2003, vol.952
- VI. **Diagnosis methodology for continuous time measurements using hierarchical signal representations**
Tumer M. B. , Belfore II L. A. , Ropella K. M.
Proceedings of the 1998 IEEE International Conference on Systems, Man, and Cybernetics. Part 3 (of 5), San Diego, CA, USA, 11 - 14 October 1998, vol.3, pp.3038

Supported Projects

Tümer M. B. , H2020 Project, Innovative Modeling Approaches for Production Systems to Raise Validatable Efficiency, 2015 - 2018

Citations

Total Citations (WOS):12

h-index (WOS):1