

Prof. FARUK POLAT

Personal Information

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Education Information

Doctorate, İhsan Doğramacı Bilkent Üniversitesi, Mühendislik Ve Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği (Dr), Turkey 1989 - 1994

Post Graduate, İhsan Doğramacı Bilkent Üniversitesi, Mühendislik Ve Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği (YI) (Tezli), Turkey 1987 - 1989

Under Graduate, Middle East Technical University, Faculty of Engineering, Department of Environmental Engineering, Turkey 1983 - 1987

Foreign Languages

English, C1 Advanced

Research Areas

Engineering and Technology

Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Engineering, Department of Computer Engineering, 2002 - Continues

Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Computer Engineering, 1996 - 2002

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Computer Engineering, 1994 - 1996

Research Assistant, İhsan Doğramacı Bilkent Üniversitesi, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, 1987 - 1994

Advising Theses

POLAT F., Automatic identification of transitional bottlenecks in reinforcement learning under partial observability, Post Graduate, H.AYDIN(Student), 2017

POLAT F., A heuristic temporal difference approach with adaptive grid discretization, Post Graduate, O.BORA(Student), 2016

POLAT F., A multi-objective recommendation system, Doctorate, M.GÜLÇİN(Student), 2016

POLAT F., Effective subgoal discovery and option generation in reinforcement learning, Post Graduate, A.DEMİR(Student), 2016

POLAT F., Task assignment and scheduling in UAV mission planning with multiple constraints, Post Graduate, F.SEMİZ(Student), 2015

POLAT F., Factored reinforcement learning using extended sequence trees, Post Graduate, C.ŞAHİN(Student), 2015

POLAT F., Community detection in social networks, Post Graduate, K.ÖZTÜRK(Student), 2014

POLAT F., Context-aware Markov decision processes, Post Graduate, Ö.EKMEKÇİ(Student), 2014

POLAT F., Mission planning for unmanned aerial vehicle (UAV) teams, Post Graduate, S.YILGIN(Student), 2014

POLAT F., Abstraction in reinforcement learning in partially observable environments, Doctorate, E.ÇILDEN(Student), 2014

POLAT F., Batch mode reinforcement learning for controlling gene regulatory networks and multi-model gene expression data enrichment framework, Post Graduate, U.ŞİRİN(Student), 2013

POLAT F., Efficient partially observable markov decision process based formulation of gene regulatory network control problem, Doctorate, U.ERDOĞDU(Student), 2012

POLAT F., Multi-objective path planning for virtual environments, Post Graduate, T.ORAL(Student), 2012

POLAT F., Multiresolution formation preserving path planning in 3-D virtual environments, Post Graduate, C.HOŞGÖR(Student), 2011

POLAT F., An automated conversion of temporal databases into XML with fuzziness option, Post Graduate, Ö.ÖZGÜN(Student), 2010

POLAT F., Optimization algorithms for resource allocation problem of air tasking order preparation, Post Graduate, A.ENGİN(Student), 2010

POLAT F., Learning cooperation in hunter-prey problem via state abstraction, Post Graduate, A.İŞÇEN(Student), 2009

POLAT F., Induction and control of large scale gene regulatory networks, Doctorate, M.TAN(Student), 2009

POLAT F., Design and implementation of a p2p contracting overlay, Post Graduate, R.ÇELEBİ(Student), 2009

POLAT F., A BDI-based multiagent simulation framework, Post Graduate, M.YÜKSELEN(Student), 2008

POLAT F., Formation preserving navigation of agent teams in 3-D terrains, Post Graduate, A.GALİP(Student), 2008

POLAT F., A new offline path search algorithm for computer games that considers damage as a feasibility criterion, Post Graduate, S.BAYILI(Student), 2008

POLAT F., Abstraction in reinforcement learning, Doctorate, S.GİRGIN(Student), 2007

POLAT F., Single and multi agent real-time path search in dynamic and partially observable environments, Doctorate, Ç.ÜNDEĞER(Student), 2007

POLAT F., Multiagent moving target search in fully visible grid environments with no speed difference, Post Graduate, C.EROĞUL(Student), 2006

POLAT F., Controlling discrete genetic regulatory networks, Doctorate, O.ABUL(Student), 2005

POLAT F., Resource based plan revision in dynamic multi-agent environments, Post Graduate, U.ERDOĞDU(Student), 2004

POLAT F., Coopretrieval: A cooperation framework for role-based case-based reasoning agents, Post Graduate, M.ÖZGÜR(Student), 2003

POLAT F., Implementing KQML agent communication language for multiagent simulation architectures on HLA, Post Graduate, E.GÖKTÜRK(Student), 2003

POLAT F., Learning to coordinate for target selection, Post Graduate, M.TAN(Student), 2003

POLAT F., 2 LRL: A two-level multi-agent reinforcement learning algorithm with communication, Post Graduate, G.ERUS(Student), 2002

POLAT F., Real time mission planning for virtual human agents, Post Graduate, Ç.ÜNDEĞER(Student), 2001

POLAT F., Multi-agent reinforcement learning using roles, Post Graduate, E.ÇILDEN(Student), 2001

POLAT F., Path-connecting multi-agent real-time A-star search, Post Graduate, M.KEMAL(Student), 2001

POLAT F., Coordination of agents in multi-agent search, Post Graduate, A.ÇAKIR(Student), 2000

POLAT F., S-learning: A multi-agent reinforcement learning method, Post Graduate, U.KUTER(Student), 2000

POLAT F., Multi agent reinforcement learning using function approximation, Post Graduate, O.ABUL(Student), 1999

POLAT F., Forming coalitions through negotiation in multi-agent environments, Post Graduate, H.JULUSOY(Student), 1999

POLAT F., Multi-agent reinforcement learning, Post Graduate, S.ŞENKUL(Student), 1999

POLAT F., Alternative plan generation for multiple query optimization, Post Graduate, G.MENEKŞE(Student), 1998

POLAT F., Implementation of an object data model enforcing closure and reusability, Post Graduate, A.YILMAZ(Student), 1998

POLAT F., Distributed shared memory linda system, Post Graduate, S.OFLAZ(Student), 1998

POLAT F., Solving graph partitioning problem using evolutionary heuristic, Post Graduate, M.KARDAŞLAR(Student), 1998

POLAT F., A Theoretical framework for combining multiple knowledge bases with uncertring, Post Graduate, E.SEYEDİ(Student), 1996

POLAT F., A Genetic algorithm for graph partitioning, Post Graduate, E.AKMAN(Student), 1995

Jury Memberships

Appointment Academic Staff, Appointment Academic Staff, Orta Doğu Teknik Üniversitesi, October, 2019

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

- **Solving the area coverage problem with UAVs: A vehicle routing with time windows variation**
SEMİZ F., POLAT F.
Robotics and Autonomous Systems, vol.126, 2020 (Journal Indexed in SCI)
- **Effective feature reduction for link prediction in location-based social networks**
Bayrak A. E. , Polat F.
JOURNAL OF INFORMATION SCIENCE, vol.45, pp.676-690, 2019 (Journal Indexed in SCI)
- **Automatic landmark discovery for learning agents under partial observability**
Demir A., Cilden E., Polat F.
KNOWLEDGE ENGINEERING REVIEW, vol.34, 2019 (Journal Indexed in SCI)
- **GENERATING EFFECTIVE INITIATION SETS FOR SUBGOAL-DRIVEN OPTIONS**
DEMİR A., Cilden E., POLAT F.
ADVANCES IN COMPLEX SYSTEMS, vol.22, 2019 (Journal Indexed in SCI)
- **A context aware model for autonomous agent stochastic planning**
Ekmekci O., POLAT F.
ROBOTICS AND AUTONOMOUS SYSTEMS, vol.112, pp.137-153, 2019 (Journal Indexed in SCI)
- **Effective induction of gene regulatory networks using a novel recommendation method**
Ozsoy M. G. , POLAT F., Alhajj R.
INTERNATIONAL JOURNAL OF DATA MINING AND BIOINFORMATICS, vol.22, pp.91-112, 2019 (Journal Indexed in SCI)
- **Realizing drug repositioning by adapting a recommendation system to handle the process**
OZSOY M. G. , Ozyer T., POLAT F., Alhajj R.
BMC BIOINFORMATICS, vol.19, 2018 (Journal Indexed in SCI)
- **Batch Mode TD(λ) for Controlling Partially Observable Gene Regulatory Networks**
Sirin U., POLAT F., Alhajj R.
IEEE-ACM TRANSACTIONS ON COMPUTATIONAL BIOLOGY AND BIOINFORMATICS, vol.14, pp.1214-1227, 2017 (Journal Indexed in SCI)
- **Employing decomposable partially observable Markov decision processes to control gene regulatory networks**
Erdogdu U., POLAT F., Alhajj R.
ARTIFICIAL INTELLIGENCE IN MEDICINE, vol.83, pp.14-34, 2017 (Journal Indexed in SCI)
- **Making recommendations by integrating information from multiple social networks**
Ozsoy M. G. , POLAT F., Alhajj R.
APPLIED INTELLIGENCE, vol.45, pp.1047-1065, 2016 (Journal Indexed in SCI)
- **Effective gene expression data generation framework based on multi-model approach**
Sirin U., Erdogdu U., POLAT F., TAN M., Alhajj R.
ARTIFICIAL INTELLIGENCE IN MEDICINE, vol.70, pp.41-61, 2016 (Journal Indexed in SCI)
- **MOD* Lite: An Incremental Path Planning Algorithm Taking Care of Multiple Objectives**

Oral T, POLAT F.

IEEE TRANSACTIONS ON CYBERNETICS, vol.46, pp.245-257, 2016 (Journal Indexed in SCI)

● **Toward Generalization of Automated Temporal Abstraction to Partially Observable Reinforcement Learning**

Cilden E., POLAT F.

IEEE TRANSACTIONS ON CYBERNETICS, vol.45, pp.1414-1425, 2015 (Journal Indexed in SCI)

● **Employment of an evolutionary heuristic to solve the target allocation problem efficiently**

Bayrak A. E. , POLAT F.

● INFORMATION SCIENCES, vol.222, pp.675-695, 2013 (Journal Indexed in SCI)

● **Integrating machine learning techniques into robust data enrichment approach and its application to gene expression data**

Erdogdu U, TAN M., Alhaji R., POLAT F., Rokne J., Demetrick D.

INTERNATIONAL JOURNAL OF DATA MINING AND BIOINFORMATICS, vol.8, pp.247-281, 2013 (Journal Indexed in SCI)

● **Subtree selection in kernels for graph classification**

TAN M., POLAT F., Alhaji R.

INTERNATIONAL JOURNAL OF DATA MINING AND BIOINFORMATICS, vol.8, pp.294-310, 2013 (Journal Indexed in SCI)

● **Revealing miRNA Regulation and miRNA Target Prediction Using Constraint-Based Learning**

Alshalalfa M., TAN M., Naji G., Alhaji R., POLAT F., Rokne J.

IEEE TRANSACTIONS ON SYSTEMS MAN AND CYBERNETICS PART C-APPLICATIONS AND REVIEWS, vol.42, pp.1354-1364, 2012 (Journal Indexed in SCI)

● **Formation preserving path finding in 3-D terrains**

Bayrak A. G. , POLAT F.

● APPLIED INTELLIGENCE, vol.36, pp.348-368, 2012 (Journal Indexed in SCI)

● **Limited-Damage A*: A path search algorithm that considers damage as a feasibility criterion**

Bayili S., POLAT F.

● KNOWLEDGE-BASED SYSTEMS, vol.24, pp.501-512, 2011 (Journal Indexed in SCI)

● **Influence of Prior Knowledge in Constraint-Based Learning of Gene Regulatory Networks**

TAN M., Alshalalfa M., Alhaji R., POLAT F.

IEEE-ACM TRANSACTIONS ON COMPUTATIONAL BIOLOGY AND BIOINFORMATICS, vol.8, pp.130-142, 2011 (Journal Indexed in SCI)

● **Improving reinforcement learning by using sequence trees**

Girgin S., POLAT F., Alhaji R.

● MACHINE LEARNING, vol.81, pp.283-331, 2010 (Journal Indexed in SCI)

● **Multi-agent real-time pursuit**

Undeger C., POLAT F.

● AUTONOMOUS AGENTS AND MULTI-AGENT SYSTEMS, vol.21, pp.69-107, 2010 (Journal Indexed in SCI)

● **Automated Large-Scale Control of Gene Regulatory Networks**

Tan M., Alhaji R., POLAT F.

IEEE TRANSACTIONS ON SYSTEMS MAN AND CYBERNETICS PART B-CYBERNETICS, vol.40, pp.286-297, 2010 (Journal Indexed in SCI)

● **Scalable approach for effective control of gene regulatory networks**

Tan M., Alhaji R., POLAT F.

● ARTIFICIAL INTELLIGENCE IN MEDICINE, vol.48, pp.51-59, 2010 (Journal Indexed in SCI)

● **Real-Time Moving Target Evaluation Search**

Undeger C., POLAT F.

IEEE TRANSACTIONS ON SYSTEMS MAN AND CYBERNETICS PART C-APPLICATIONS AND REVIEWS, vol.39, pp.366-372, 2009 (Journal Indexed in SCI)

● **A layered approach to learning coordination knowledge in multiagent environments**

Erus G., Polat F.

- APPLIED INTELLIGENCE, vol.27, pp.249-267, 2007 (Journal Indexed in SCI)
RTTES: Real-time search in dynamic environments
 Undeger C., Polat F.
- APPLIED INTELLIGENCE, vol.27, pp.113-129, 2007 (Journal Indexed in SCI)
Positive impact of state similarity on reinforcement learning performance
 Girgin S., Polat F., Alhajj R.
 IEEE TRANSACTIONS ON SYSTEMS MAN AND CYBERNETICS PART B-CYBERNETICS, vol.37, pp.1256-1270, 2007
 (Journal Indexed in SCI)
- **Real-time edge follow: A real-time path search approach**
 Undeger C., Polat F.
 IEEE TRANSACTIONS ON SYSTEMS MAN AND CYBERNETICS PART C-APPLICATIONS AND REVIEWS, vol.37, pp.860-872, 2007 (Journal Indexed in SCI)
- **A powerful approach for effective finding of significantly differentially expressed genes**
 Abul O., Alhajj R., Polat F.
 IEEE-ACM TRANSACTIONS ON COMPUTATIONAL BIOLOGY AND BIOINFORMATICS, vol.3, pp.220-231, 2006
 (Journal Indexed in SCI)
- **Effectiveness of considering state similarity for reinforcement learning**
 Girgin S., Polat F., Alhajj R.
 INTELLIGENT DATA ENGINEERING AND AUTOMATED LEARNING - IDEAL 2006, PROCEEDINGS, vol.4224, pp.163-171, 2006 (Journal Indexed in SCI)
- **Co-operation framework of case-based reasoning agents for automated product recommendation**
 Baykal M., Alhajj R., Polat F.
 JOURNAL OF EXPERIMENTAL & THEORETICAL ARTIFICIAL INTELLIGENCE, vol.17, pp.201-220, 2005 (Journal Indexed in SCI)
- **Data management research at the Middle East Technical University**
 Cicekli N., Cosar A., Dogac A., Polat F., Senkul P., Toroslu I., Yazici A.
 SIGMOD RECORD, vol.34, pp.81-84, 2005 (Journal Indexed in SCI)
- **Multilevel graph partitioning: an evolutionary approach**
 Kucupetek S., Polat F., Oguztuzun H.
 JOURNAL OF THE OPERATIONAL RESEARCH SOCIETY, vol.56, pp.549-562, 2005 (Journal Indexed in SCI)
- **Views as first-class citizens in object-oriented databases**
 Alhajj R., Polat F., Yilmaz C.
 VLDB JOURNAL, vol.14, pp.155-169, 2005 (Journal Indexed in SCI)
- **Finding differentially expressed genes for pattern generation**
 Abul O., Alhajj R., Polat F., Barker K.
 BIOINFORMATICS, vol.21, pp.445-450, 2005 (Journal Indexed in SCI)
- **Multiple-agents to identify and separate touching digits in unconstrained handwritten Hindi numerals**
 Alhajj R., Polat F.
 JOURNAL OF EXPERIMENTAL & THEORETICAL ARTIFICIAL INTELLIGENCE, vol.15, pp.461-471, 2003 (Journal Indexed in SCI)
- **Chemoenzymatic synthesis of both enantiomers of 3-hydroxy-2,3-dihydro-4H-chromen-4-one**
 Demir A., Aybey A., Sesenoglu O., Polat F.
 TETRAHEDRON-ASYMMETRY, vol.14, pp.1489-1493, 2003 (Journal Indexed in SCI)
- **Implementing agent communication for a multi-agent simulation infrastructure on HLA**
 Gokturk E., Polat F.
 COMPUTER AND INFORMATION SCIENCES - ISCIS 2003, vol.2869, pp.619-626, 2003 (Journal Indexed in SCI)
- **Rule-based schema evolution in object-oriented databases**
 Alhajj R., Polat F.
 KNOWLEDGE-BASED SYSTEMS, vol.16, pp.47-57, 2003 (Journal Indexed in SCI)
- **Learning intelligent behavior in a non-stationary and partially observable environment**

Senkul S., Polat F.

ARTIFICIAL INTELLIGENCE REVIEW, vol.18, pp.97-115, 2002 (Journal Indexed in SCI)

● **Coordination of intelligent agents in real-time search**

Cakir A., Polat F.

EXPERT SYSTEMS, vol.19, pp.80-87, 2002 (Journal Indexed in SCI)

● **Learning sequences of compatible actions among agents**

Polat F., Abul O.

ARTIFICIAL INTELLIGENCE REVIEW, vol.17, pp.21-37, 2002 (Journal Indexed in SCI)

● **Semantic information-based alternative plan generation for multiple query optimization**

Polat F., Cosar A., Alhajj R.

INFORMATION SCIENCES, vol.137, pp.103-133, 2001 (Journal Indexed in SCI)

● **Multiagent reinforcement learning using function approximation**

Abul O., Polat F., Alhajj R.

IEEE TRANSACTIONS ON SYSTEMS MAN AND CYBERNETICS PART C-APPLICATIONS AND REVIEWS, vol.30, pp.485-497, 2000 (Journal Indexed in SCI)

● **Using object-oriented materialized views to answer selection-based complex queries**

Alhajj R., Polat F.

INFORMATION SCIENCES, vol.118, pp.75-99, 1999 (Journal Indexed in SCI)

● **A multi-agent tuple-space based problem solving framework**

Polat F., Alhajj R.

JOURNAL OF SYSTEMS AND SOFTWARE, vol.47, pp.11-17, 1999 (Journal Indexed in SCI)

● **Incremental view maintenance in object-oriented databases**

Alhajj R., Polat F.

DATA BASE FOR ADVANCES IN INFORMATION SYSTEMS, vol.29, pp.52-64, 1998 (Journal Indexed in SCI)

● **Proper handling of query results towards maximizing reusability in object-oriented databases**

Alhajj R., Polat F.

INFORMATION SCIENCES, vol.107, pp.247-272, 1998 (Journal Indexed in SCI)

● **View maintenance in object-oriented databases**

Alhajj R., Polat F.

DATABASE AND EXPERT SYSTEMS APPLICATIONS, vol.1134, pp.153-162, 1996 (Journal Indexed in SCI)

Refereed Congress / Symposium Publications in Proceedings

● **Compact Frequency Memory for Reinforcement Learning with Hidden States.**

Polat F., Aydin H., Cilden E.

PRIMA 2019: Principles and Practice of Multi-Agent Systems - 22nd International Conference, Taranto, Italy, 28 - 31 October 2019, pp.425-433

● **Reducing Features to Improve Link Prediction Performance in Location Based Social Networks, Non-Monotonically Selected Subset from Feature Clusters**

Bayrak A. E. , POLAT F.

IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), Vancouver, Canada, 27 - 30 August 2019, pp.809-815

● **Landmark Based Reward Shaping in Reinforcement Learning with Hidden States**

DEMİR A., Cilden E., POLAT F.

18th International Conference on Autonomous Agents and MultiAgent Systems (AAMAS), Montreal, Canada, 13 - 17 May 2019, pp.1922-1924

● **Mining Individual Features to Enhance Link Prediction Efficiency in Location Based Social Networks**

Bayrak A. E. , Polat F.

IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), Barcelona, Spain, 28 - 31 August 2018, pp.920-925

● **Using Transitional Bottlenecks to Improve Learning in Nearest Sequence Memory Algorithm**

AYDIN H., CILDEN E., POLAT F.

IEEE 29th International Conference on Tools with Artificial Intelligence (ICTAI), Massachusetts, United States Of America, 6 - 08 November 2017, pp.147-152

● **A Concept Filtering Approach for Diverse Density to Discover Subgoals in Reinforcement Learning**

DEMİR A., CILDEN E., POLAT F.

IEEE 29th International Conference on Tools with Artificial Intelligence (ICTAI), Massachusetts, United States Of America, 6 - 08 November 2017, pp.1-5

● **A History Tree Heuristic to Generate Better Initiation Sets for Options in Reinforcement Learning**

DEMİR A., CILDEN E., POLAT F.

22nd European Conference on Artificial Intelligence (ECAI), Hague, Netherlands, 29 August - 02 September 2016, vol.285, pp.1644-1645

● **Time Preference aware Dynamic Recommendation Enhanced with Location, Social Network and Temporal Information**

Ozsoy M. G. , POLAT F., Alhadj R.

8th IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), San-Francisco, Costa Rica, 18 - 21 August 2016, pp.909-916

● **Examining Place Categories for Link Prediction in Location Based Social Networks**

Bayrak A. E. , POLAT F.

8th IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), San-Francisco, Costa Rica, 18 - 21 August 2016, pp.976-979

● **Inference of Gene Regulatory Networks Via Multiple Data Sources and a Recommendation Method**

Ozsoy M. G. , POLAT F., Alhadj R.

IEEE International Conference on Bioinformatics and Biomedicine, Washington, Kiribati, 9 - 12 November 2015, pp.661-664

● **Modeling Individuals and Making Recommendations Using Multiple Social Networks**

Ozsoy M. G. , POLAT F., Alhadj R.

IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), Paris, France, 25 - 28 August 2015, pp.1184-1191

● **Memory Efficient Factored Abstraction for Reinforcement Learning**

Sahin C., CILDEN E., POLAT F.

IEEE 2nd International Conference on Cybernetics (CYBCONF), Gdynia, Poland, 24 - 26 June 2015, pp.18-23

● **Multi-Objective Optimization Based Location and Social Network Aware Recommendation**

Ozsoy M. G. , POLAT F., Alhadj R.

10th IEEE International Conference on Collaborative Computing Networking Applications and Worksharing, Florida, United States Of America, 22 - 25 October 2014, pp.233-242

● **Trust Based Recommendation Systems**

Ozsoy M. G. , POLAT F.

IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), Niagara Falls, Canada, 25 - 28 August 2013, pp.1267-1274

● **Effective Enrichment of Gene Expression Data Sets**

Sirin U., Erdogdu U., TAN M., POLAT F., Alhadj R.

11th IEEE International Conference on Machine Learning and Applications (ICMLA), Florida, United States Of America, 12 - 15 December 2012, pp.76-81

● **A Multi-Objective Incremental Path Planning Algorithm for Mobile Agents**

Oral T., POLAT F.

11th IEEE/WIC/ACM International Joint Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT), Macau, China, 4 - 07 December 2012, pp.401-408

● **Abstraction in Model Based Partially Observable Reinforcement Learning using Extended Sequence Trees**

CILDEN E., POLAT F.

11th IEEE/WIC/ACM International Joint Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT), Macau, China, 4 - 07 December 2012, pp.348-355

● **Partially Observable Gene Regulatory Network Control Without a Boundary on Horizon**

Erdogdu U., POLAT F., Alhajj R.

IEEE 24th International Conference on Tools with Artificial Intelligence (ICTAI), Athens, Greece, 7 - 09 November 2012, pp.81-88

● **Employing Machine Learning Techniques for Data Enrichment: Increasing the number of samples for effective gene expression data analysis**

Erdogdu U., TAN M., Alhajj R., POLAT F., Demetrick D., Rokne J.

IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Georgia, United States Of America, 12 - 15 November 2011, pp.238-242

● **Feature Selection for Graph Kernels**

TAN M., POLAT F., Alhajj R.

IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Hong Kong, Hong Kong, 18 - 21 December 2010, pp.632-637

● **Derivation of Transcriptional Regulatory Relationships by Partial Least Squares Regression**

Tan M., POLAT F., Alhajj R.

IEEE International Conference on Bioinformatics and Biomedicine (BIBM 2009), Washington, Kiribati, 1 - 04 November 2009, pp.88-89

● **Large-Scale Approximate Intervention Strategies for Probabilistic Boolean Networks as Models of Gene Regulation**

Tan M., Alhajj R., POLAT F.

8th IEEE International Conference on Bioinformatics and Bioengineering, Athens, Greece, 8 - 10 October 2008, pp.296-297

● **Combining Multiple Types of Biological Data in Constraint-Based Learning of Gene Regulatory Networks**

Tan M., AlShalalfa M., Alhajj R., POLAT F.

IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology, Idaho, United States Of America, 15 - 17 September 2008, pp.131-132

● **FORMATION PRESERVING NAVIGATION OF AGENT TEAMS IN 3-D TERRAINS**

Bayrak A. G. , POLAT F.

6th International Industrial Simulation Conference, Lyon, France, 9 - 11 June 2008, pp.148-155

● **Real-Time Moving Target Search**

Undeger C., POLAT F.

10th Pacific Rim International Conference on Multi-Agent Systems, Bangkok, Thailand, 21 - 23 November 2007, vol.5044, pp.110-111

● **Feature reduction for gene regulatory network control**

Tan M., POLAT F., Alhajj R.

7th IEEE International Conference on Bioinformatics and Bioengineering, Massachusetts, United States Of America, 14 - 17 October 2007, pp.1260-1261

● **State Similarity Based Approach for Improving Performance in RL**

Girgin S., POLAT F., Alhajj R.

20th International Joint Conference on Artificial Intelligence, Hyderabad, Pakistan, 6 - 12 January 2007, pp.817-822

● **Asymptotical lower limits on required number of examples for learning boolean networks**

Abul O., Alhajj R., Polat F.

21st International Symposium on Computer and Information Sciences (ISCIS 2006), İstanbul, Turkey, 1 - 03 November 2006, vol.4263, pp.154-164

● **Optimal multi-objective control method for discrete genetic regulatory networks**

Abul O., Alhajj R., POLAT F.

6th IEEE Symposium on Bioinformatics and BioEngineering (BIBE 2006), Virginia, United States Of America, 16 - 18 October 2006, pp.281-282

● **Learning by Automatic Option Discovery from Conditionally Terminating Sequences**

Girgin S., POLAT F., Alhajj R.

17th European Conference on Artificial Intelligence, Riva del Garda, Italy, 28 August 2006, vol.141, pp.494-495

● **Option discovery in reinforcement learning using frequent common subsequences of actions**

Girgin S., POLAT F.

International Conference on Computational Intelligence for Modelling, Control and Automation/International Conference on Intelligent Agents Web Technologies and International Commerce, Vienna, Austria, 28 - 30

November 2005, pp.371-372

● **Alternative Plan Generation methods for Multiple Query Optimization**

Menekse G., Polat F., Cosar A.

13th International Symposium on Computer and Information Sciences (ISCIS 98), BELEK ANTALYA, Turkey, 26 - 28 October 1998, vol.53, pp.246-253

Supported Projects

Polat F., TUBITAK Project, Subgoal Identification in Sequential Decision Making under Partial Observability, 2016 - 2018

POLAT F., TUBITAK Project, Kısmi Gözlemlenebilir Takviye Öğrenme İçin Dolaysız Soyutlama Proje No 113E239, 2013 - 2015

Activities in Scientific Journals

Network Modeling Analysis in Health Informatics and Bioinformatics, Committee Member, 2016 - Continues

Scientific Refereeing

TUBITAK Project, 1011 - International Scientific Research Projects Participation Program (UBAP), Şirket, Turkey, December 2019

Project Supported by Public Organizations in Other Countries, Natural Sciences and Engineering Research Council of Canada, Canada, December 2019

TUBITAK Project, 3501 - National Young Researcher Career Development Program, Ondokuz Mayıs University, Turkey, November 2019

TUBITAK Project, 1002 - Quick Support Program, Suleyman Demirel University, Turkey, October 2019

TUBITAK Project, 1505 - University-Industry Cooperation Support Program, Isparta University Of Applied Sciences, Turkey, September 2019

TUBITAK Project, 1002 - Quick Support Program, Karadeniz Technical University, Turkey, July 2019

Social Network Analysis and Mining, Journal Indexed in ESCI, June 2019

TUBITAK Project, 1507 - TÜBİTAK SME R&D Start Support Program, TÜRKTRUST BİLGİ İLETİŞİM VE BİLİŞİM GÜVENLİĞİ HİZ. A.Ş. (ANKARA), Turkey, June 2019

Adaptive Behavior, Journal Indexed in SCI-E, May 2019

TUBITAK Project, 1507 - TÜBİTAK SME R&D Start Support Program, KASSA MOBİL BİLGİ TEKNOLOJİLERİ ANONİM ŞİRKETİ (İSTANBUL), Turkey, May 2019

TUBITAK Project, 1501 - Industry R & D Projects Support Program, AZİMECH BİLİŞİM VE YAZILIM HİZMETLERİ SANAYİ VE TİCARET ANONİM ŞİRKETİ (BURSA), Turkey, April 2019

2019 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Conference Paper (Full Text), March 2019

TUBITAK Project, 1501 - Industry R & D Projects Support Program, SİMTERNET YAZILIM ANONİM ŞİRKETİ (İSTANBUL), Turkey, March 2019

Influence and Behavior Analysis in Social Networks and Social Media, Chapter Textbook Published by Renowned

Publishing Houses, February 2019

TUBITAK Project, 1507 - TÜBİTAK SME R&D Start Support Program, SMART ADVICE FİNANSAL TEKNOLOJİLER A.Ş (İSTANBUL), Turkey, February 2019

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Project Supported by Higher Education Institutions, BAP Guided, Yükseköğretim Proje Geliştirme ve Destekleme Daire Başkanlığı, Turkey, January 2019

TUBITAK Project, 1507 - TÜBİTAK SME R&D Start Support Program, OSF GLOBAL SERVICES YAZILIM DANIŞMANLIK LTD. ŞTİ. (İZMİR), Turkey, January 2019

TUBITAK Project, 1501 - Industry R & D Projects Support Program, OTOKAR OTOMOTİV VE SAVUNMA SAN. A.Ş. (SAKARYA), Turkey, January 2019

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Project Supported by Public Organizations in Other Countries, Natural Sciences and Engineering Research Council of Canada, Canada, December 2018

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Expert Systems, SCI Journal, October 2018

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KOSGEB, ACTİVATE BİLİŞİM TEKNOLOJİLERİ A.Ş , Turkey, August 2018

TUBITAK Project, 1507 - TÜBİTAK SME R&D Start Support Program, ASİST BİLGİ TEKNOLOJİLERİ VE ELEKTRONİK HABERLEŞME LİMİTED ŞİRKETİ (İSTANBUL), Turkey, August 2018

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TUBITAK Project, 2209-A - Üniversite Öğrencileri Araştırma Projeleri Destekleme Programı, Middle East Technical University, Turkey, May 2018

SOCIAL NETWORK ANALYSIS AND MINING, Journal Indexed in ESCI, April 2018

IEEE TRANSACTIONS ON NEURAL NETWORKS AND LEARNING SYSTEMS, SCI Journal, March 2018

17th International Conference on Practical Applications of Agents and Multi-Agent Systems (), Conference Paper (Full Text), March 2018

17th International Conference on Practical Applications of Agents and Multi-Agent Systems (iEnsemble2: Committee Machine Model-based On Heuristically-Accelerated Multiagent Reinforcement Learning), Conference Paper (Full Text), March 2018

17th International Conference on Practical Applications of Agents and Multi-Agent Systems (Multi-agent based Recommender Systems: A survey), Conference Paper (Full Text), March 2018

BMC GENOMICS, SCI Journal, January 2018

INFORMATION SCIENCES, SCI Journal, January 2018

Invited Congress and Symposium Activities

IEEE ASONAM, Working Group, Barcelona, Spain, 2018

Citations

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