Prof. FARUK POLAT

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: ABA-3585-2020

ScopusID: 7003321824

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Education Information

Doctorate, Ihsan Dogramaci Bilkent University, Instıtute Of Engıneerıng And Natural Scıences, Bilgisayar Mühendisliği (Dr), Turkey 1989 - 1994

Postgraduate, Ihsan Dogramaci Bilkent University, Instıtute Of Engıneerıng And Natural Scıences, Bilgisayar Mühendisliği (Yl) (Tezli), Turkey 1987 - 1989

Undergraduate, Middle East Technical University, Faculty of Engineering, Department of Computer 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, Ihsan Dogramaci Bilkent University, Faculty Of Engıneerıng, Department Of Computer Engıneerıng, 1987 - 1994

Advising Theses

POLAT F., Using frequencies of transitions to improve reinforcement learningwith hidden states, Doctorate, H.AYDIN(Student), 2022

POLAT F., Generalizations of multi-agent path finding problem forincremental environments, Doctorate, F.SEMİZ(Student), 2022

POLAT F., EMDD-RL: Faster subgoal ıdentification with diverse density in reinforcement learning, Postgraduate, S.SUNEL(Student), 2021

POLAT F., A context-aware model for stochastic planning in environments with hidden states, Doctorate, Ö.EKMEKCİ(Student), 2021

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

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

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

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

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

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

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

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

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

POLAT F., Context-aware Markov decision processes, Postgraduate, Ö.EKMEKCİ(Student), 2014

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

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

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

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

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

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

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

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

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

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

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

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

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

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

POLAT F., Multiagent moving target search in fully visible grid environments with no speed difference, Postgraduate, 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, Postgraduate, U.ERDOĞDU(Student), 2004

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

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

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

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

POLAT F., Multi-agent reinforcement learning using roles, Postgraduate, E.ÇİLDEN(Student), 2001

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

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

POLAT F., Multilevel graph partitioning : an evolutionary approach, Postgraduate, S.Küçükpetek(Student), 2000

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

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

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

POLAT F., Forming coalitions through negotiation in multi-agent environments, Postgraduate, H.ULUSOY(Student), 1999

POLAT F., Forming coalitions through negotation in multi-agent environments, Postgraduate, H.Ulusoy(Student), 1999

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

POLAT F., Implementation of an object data model enforcing cloruse and reusability, Postgraduate, A.YILMAZ(Student), 1998

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

POLAT F., Distributed shrem memory linda system, Postgraduate, S.OFLAZ(Student), 1998

POLAT F., Distributed shared memory implementation of linda model, Postgraduate, S.Oflaz(Student), 1998

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

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

POLAT F., A theoretical framework for combining multiple knowledge bases with uncertainty, Postgraduate, E.Seyedi(Student), 1996

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

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

Jury Memberships

Associate Professor Exam, Associate Professor Exam, Sabancı Üniversitesi, March, 2022

Appointment to Academic Staff-Professorship, Appointment Academic Staff, Orta Doğu Teknik Üniversitesi, October, 2019

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Potential-based reward shaping using state–space segmentation for efficiency in reinforcement learning**
Bal M. İ., AYDIN H., İYİGÜN C., POLAT F.
Future Generation Computer Systems, vol.157, pp.469-484, 2024 (SCI-Expanded)

II. **Population-based exploration in reinforcement learning through repulsive reward shaping using eligibility traces**
Bal M. I., İYİGÜN C., POLAT F., AYDIN H.
Annals of Operations Research, 2024 (SCI-Expanded)

III. **Solving an industry-inspired generalization of lifelong MAPF problem including multiple delivery locations**
Semiz F., Yorgancı M. A., POLAT F.
Advanced Engineering Informatics, vol.57, 2023 (SCI-Expanded)

IV. **Landmark based guidance for reinforcement learning agents under partial observability**

Demir A., Çilden E., Polat F.

International Journal of Machine Learning and Cybernetics, vol.14, no.4, pp.1543-1563, 2023 (SCI-Expanded)

V. **Using chains of bottleneck transitions to decompose and solve reinforcement learning tasks with hidden states**

Aydin H., Çilden E., Polat F.

Future Generation Computer Systems, vol.133, pp.153-168, 2022 (SCI-Expanded)

VI. **Incremental multi-agent path finding**

Semiz F., Polat F.

FUTURE GENERATION COMPUTER SYSTEMS-THE INTERNATIONAL JOURNAL OF ESCIENCE, vol.116, pp.220-233, 2021 (SCI-Expanded)

VII. **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 (SCI-Expanded)

VIII. **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 (SCI-Expanded)

IX. **Automatic landmark discovery for learning agents under partial observability**

Demir A., Cilden E., Polat F.

KNOWLEDGE ENGINEERING REVIEW, vol.34, 2019 (SCI-Expanded)

X. **GENERATING EFFECTIVE INITIATION SETS FOR SUBGOAL-DRIVEN OPTIONS**

DEMİR A., Cilden E., POLAT F.

ADVANCES IN COMPLEX SYSTEMS, vol.22, no.2, 2019 (SCI-Expanded)

XI. **A context aware model for autonomous agent stochastic planning**

Ekmekci O., POLAT F.

ROBOTICS AND AUTONOMOUS SYSTEMS, vol.112, pp.137-153, 2019 (SCI-Expanded)

XII. **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, no.2, pp.91-112, 2019 (SCI-Expanded)

XIII. **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 (SCI-Expanded)

XIV. **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 (SCI-Expanded)

XV. **Batch Mode TD(lambda) for Controlling Partially Observable Gene Regulatory Networks**

Sirin U., POLAT F., Alhajj R.

IEEE-ACM TRANSACTIONS ON COMPUTATIONAL BIOLOGY AND BIOINFORMATICS, vol.14, no.6, pp.1214-1227, 2017 (SCI-Expanded)

XVI. **Making recommendations by integrating information from multiple social networks**

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

APPLIED INTELLIGENCE, vol.45, no.4, pp.1047-1065, 2016 (SCI-Expanded)

XVII. **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 (SCI-Expanded)

XVIII. **MOD* Lite: An Incremental Path Planning Algorithm Taking Care of Multiple Objectives**

Oral T., POLAT F.

IEEE TRANSACTIONS ON CYBERNETICS, vol.46, no.1, pp.245-257, 2016 (SCI-Expanded)

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

Cilden E., POLAT F.

IEEE TRANSACTIONS ON CYBERNETICS, vol.45, no.8, pp.1414-1425, 2015 (SCI-Expanded)

XX. **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 (SCI-Expanded)

XXI. **Subtree selection in kernels for graph classification**

TAN M., POLAT F., Alhajj R.

INTERNATIONAL JOURNAL OF DATA MINING AND BIOINFORMATICS, vol.8, no.3, pp.294-310, 2013 (SCI-Expanded)

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

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

INTERNATIONAL JOURNAL OF DATA MINING AND BIOINFORMATICS, vol.8, no.3, pp.247-281, 2013 (SCI-Expanded)

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

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

IEEE TRANSACTIONS ON SYSTEMS MAN AND CYBERNETICS PART C-APPLICATIONS AND REVIEWS, vol.42, no.6, pp.1354-1364, 2012 (SCI-Expanded)

XXIV. **Formation preserving path finding in 3-D terrains**

Bayrak A. G., POLAT F.

APPLIED INTELLIGENCE, vol.36, no.2, pp.348-368, 2012 (SCI-Expanded)

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

Bayili S., POLAT F.

KNOWLEDGE-BASED SYSTEMS, vol.24, no.4, pp.501-512, 2011 (SCI-Expanded)

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

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

IEEE-ACM TRANSACTIONS ON COMPUTATIONAL BIOLOGY AND BIOINFORMATICS, vol.8, no.1, pp.130-142, 2011 (SCI-Expanded)

XXVII. **Improving reinforcement learning by using sequence trees**

Girgin S., POLAT F., Alhajj R.

MACHINE LEARNING, vol.81, no.3, pp.283-331, 2010 (SCI-Expanded)

XXVIII. **Multi-agent real-time pursuit**

Undeger C., POLAT F.

AUTONOMOUS AGENTS AND MULTI-AGENT SYSTEMS, vol.21, no.1, pp.69-107, 2010 (SCI-Expanded)

XXIX. **Automated Large-Scale Control of Gene Regulatory Networks**

Tan M., Alhajj R., POLAT F.

IEEE TRANSACTIONS ON SYSTEMS MAN AND CYBERNETICS PART B-CYBERNETICS, vol.40, no.2, pp.286-297, 2010 (SCI-Expanded)

XXX. **Scalable approach for effective control of gene regulatory networks**

Tan M., Alhajj R., POLAT F.

ARTIFICIAL INTELLIGENCE IN MEDICINE, vol.48, no.1, pp.51-59, 2010 (SCI-Expanded)

XXXI. **Real-Time Moving Target Evaluation Search**

Undeger C., POLAT F.

IEEE TRANSACTIONS ON SYSTEMS MAN AND CYBERNETICS PART C-APPLICATIONS AND REVIEWS, vol.39, no.3, pp.366-372, 2009 (SCI-Expanded)

XXXII. **A layered approach to learning coordination knowledge in multiagent environments**

Erus G., Polat F.

APPLIED INTELLIGENCE, vol.27, no.3, pp.249-267, 2007 (SCI-Expanded)

XXXIII. **RTTES: Real-time search in dynamic environments**

Undeger C., Polat F.

APPLIED INTELLIGENCE, vol.27, no.2, pp.113-129, 2007 (SCI-Expanded)

XXXIV. **Positive impact of state similarity on reinforcement learning performance**
Girgin S., Polat F., Alhaj R.
IEEE TRANSACTIONS ON SYSTEMS MAN AND CYBERNETICS PART B-CYBERNETICS, vol.37, no.5, pp.1256-1270, 2007 (SCI-Expanded)

XXXV. **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, no.5, pp.860-872, 2007 (SCI-Expanded)

XXXVI. **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, no.3, pp.220-231, 2006 (SCI-Expanded)

XXXVII. **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 (SCI-Expanded)

XXXVIII. **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, no.3, pp.81-84, 2005 (SCI-Expanded)

XXXIX. **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, no.3, pp.201-220, 2005 (SCI-Expanded)

XL. **Multilevel graph partitioning: an evolutionary approach**
Kucupetek S., Polat F., Oguztuzun H.
JOURNAL OF THE OPERATIONAL RESEARCH SOCIETY, vol.56, no.5, pp.549-562, 2005 (SCI-Expanded)

XLI. **Views as first-class citizens in object-oriented databases**
Alhajj R., Polat F., Yilmaz C.
VLDB JOURNAL, vol.14, no.2, pp.155-169, 2005 (SCI-Expanded)

XLII. **Finding differentially expressed genes for pattern generation**
Abul O., Alhajj R., Polat F., Barker K.
BIOINFORMATICS, vol.21, no.4, pp.445-450, 2005 (SCI-Expanded)

XLIII. **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, no.4, pp.461-471, 2003 (SCI-Expanded)

XLIV. **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 (SCI-Expanded)

XLV. **Rule-based schema evolution in object-oriented databases**
Alhajj R., Polat F.
KNOWLEDGE-BASED SYSTEMS, vol.16, no.1, pp.47-57, 2003 (SCI-Expanded)

XLVI. **Learning intelligent behavior in a non-stationary and partially observable environment**
Senkul S., Polat F.
ARTIFICIAL INTELLIGENCE REVIEW, vol.18, no.2, pp.97-115, 2002 (SCI-Expanded)

XLVII. **Coordination of intelligent agents in real-time search**
Cakir A., Polat F.
EXPERT SYSTEMS, vol.19, no.2, pp.80-87, 2002 (SCI-Expanded)

XLVIII. **Learning sequences of compatible actions among agents**
Polat F., Abul O.

ARTIFICIAL INTELLIGENCE REVIEW, vol.17, no.1, pp.21-37, 2002 (SCI-Expanded)

XLIX. **Semantic information-based alternative plan generation for multiple query optimization**
Polat F., Cosar A., Alhajj R.
INFORMATION SCIENCES, vol.137, pp.103-133, 2001 (SCI-Expanded)

L. **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, no.4, pp.485-497, 2000 (SCI-Expanded)

LI. **Using object-oriented materialized views to answer selection-based complex queries**
Alhajj R., Polat F.
INFORMATION SCIENCES, vol.118, pp.75-99, 1999 (SCI-Expanded)

LII. **A multi-agent tuple-space based problem solving framework**
Polat F., Alhajj R.
JOURNAL OF SYSTEMS AND SOFTWARE, vol.47, no.1, pp.11-17, 1999 (SCI-Expanded)

LIII. **Proper handling of query results towards maximizing reusability in object-oriented databases**
Alhajj R., Polat F.
INFORMATION SCIENCES, vol.107, pp.247-272, 1998 (SCI-Expanded)

LIV. **Incremental view maintenance in object-oriented databases**
Alhajj R., Polat F.
DATA BASE FOR ADVANCES IN INFORMATION SYSTEMS, vol.29, no.3, pp.52-64, 1998 (SCI-Expanded)

LV. **View maintenance in object-oriented databases**
Alhajj R., Polat F.
DATABASE AND EXPERT SYSTEMS APPLICATIONS, vol.1134, pp.153-162, 1996 (SCI-Expanded)

Books & Book Chapters

I. **An Evolutionary Approach for Detecting Communities in Social Networks**
POLAT F., Ozturk K.
in: From Security to Community Detection in Social Networking Platforms, , Editor, Springer, pp.17-44, 2019

II. **State of the Art Applications of Social Network Analysis**
Can F., POLAT F., Ozyer T.
Springer, 2014

Refereed Congress / Symposium Publications in Proceedings

I. **Multiagent Pickup and Delivery for Capacitated Agents**
Çilden E., POLAT F.
20th International Conference on Practical Applications of Agents and Multi-Agent Systems , PAAMS 2022, L'Aquila, Italy, 13 - 15 July 2022, vol.13616 LNAI, pp.76-87

II. **LIMP: Incremental Multi-agent Path Planning with LPA***
Yorganci M. A., SEMİZ F., POLAT F.
14th International Conference on Agents and Artificial Intelligence (ICAART), ELECTR NETWORK, 3 - 05 February 2022, pp.208-215

III. **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

IV. **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

V. **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

VI. **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

VII. **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

VIII. **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

IX. **Autonomous Intelligent Agents and Multi-Agent Systems**
POLAT F.
International Symposium on Engineering, Artificial Intelligence and Applications (ISEAIA 2017), 1 - 03 November 2017

X. **An Evolutionary Approach for Detecting Communities in Social Networks**
POLAT F., Ozturk K., Ozyer T.
Proceedings of the 2017 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining 2017 - ASONAM 'xx17, Sydney, Australia, 31 July - 03 August 2017

XI. **Local Roots A Tree Based Subgoal Discovery Method to Accelerate Reinforcement Learning**
Demir A., POLAT F., Cilden E.
Machine Learning and Knowledge Discovery in Databases - European Conference, ECML PKDD 2016, 19 - 23 September 2016

XII. **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

XIII. **Time Preference aware Dynamic Recommendation Enhanced with Location, Social Network and Temporal Information**
Ozsoy M. G., POLAT F., Alhajj 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

XIV. **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

XV. **Inference of Gene Regulatory Networks Via Multiple Data Sources and a Recommendation Method**
Ozsoy M. G., POLAT F., Alhajj R.
IEEE International Conference on Bioinformatics and Biomedicine, Washington, Kiribati, 9 - 12 November 2015, pp.661-664

XVI. **Modeling Individuals and Making Recommendations Using Multiple Social Networks**
Ozsoy M. G., POLAT F., Alhajj R.
IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), Paris,

France, 25 - 28 August 2015, pp.1184-1191

XVII. **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

XVIII. **Multi-Objective Optimization Based Location and Social Network Aware Recommendation**
Ozsoy M. G., POLAT F., Alhajj R.
10th IEEE International Conference on Collaborative Computing Networking Applications and Worksharing, Florida, United States Of America, 22 - 25 October 2014, pp.233-242

XIX. **Contextual Feature Analysis to Improve Link Prediction for Location Based Social Networks**
Bayrak A. E., POLAT F.
Proceedings of the 8th Workshop on Social Network Mining and Analysis - SNAKDD'14, New York, NY, USA, 24 - 27 August 2014

XX. **Cluster validity analysis using subsampling**
ABUL O., Lo A., Alhajj R., POLAT F.
SMC'03 Conference Proceedings. 2003 IEEE International Conference on Systems, Man and Cybernetics. Conference Theme - System Security and Assurance (Cat. No.03CH37483), Washington, DC, USA, 5 - 08 August 2003

XXI. **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

XXII. **Effective Enrichment of Gene Expression Data Sets**
Sirin U., Erdogdu U., TAN M., POLAT F., Alhajj R.
11th IEEE International Conference on Machine Learning and Applications (ICMLA), Florida, United States Of America, 12 - 15 December 2012, pp.76-81

XXIII. **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

XXIV. **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

XXV. **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

XXVI. **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

XXVII. **Reengineering relational databases to object oriented constructing the class hierarchy and migrating the data**
Alhajj R., POLAT F.
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TUBITAK Project, 1501 - Industry R & D Projects Support Program, PANATES BİLGİ TEKNOLOJİLERİ A.Ş. (İZMİR), Turkey, May 2020

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

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, Turkey, December 2018

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

TUBITAK Project, 1507 - TÜBİTAK SME R&D Start Support Program, PROBEL BİLGİSAYAR YAZILIM DONANIM SANAYİ VE TİCARET ANONİM ŞİRKETİ (İZMİR), Turkey, November 2018

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Project Supported by Higher Education Institutions, BAP Guided, YOK, Turkey, August 2018

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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
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Scientific Consultations

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Metrics

Publication: 102
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Congress and Symposium Activities

IEEE ASONAM, Working Group, Barcelona, Spain, 2018

Non Academic Experience

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