

CURRICULUM VITAE

KONSTANTINOS (KOSTAS) KOLOMVATSOS

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A. CURRICULUM VITAE

A.1. PERSONAL DATA

Surname	Kolomvatsos
Name	Konstantinos (Kostas)
Status	Married with two children
E-mail	kostasks@uth.gr
Website	http://kostasks.users.uth.gr

A.2. ACADEMIC QUALIFICATIONS

Ph.D. in Computer Science

GPA: Excellent

Department of Informatics and Telecommunications

Faculty of Science - University of Athens

M.Sc. in Computer Science

GPA: 8.48/10

Department of Informatics and Telecommunications

Faculty of Science - University of Athens

B.Sc. in Informatics

GPA: 7,20/10 (Grade was on the top 10% of the class)

Department of Informatics

Athens University of Economics and Business

A.3. LANGUAGES

English	Certificate of Proficiency in English
French	Basic knowledge

A.4. ACADEMIC ACTIVITIES

A.4.1. Academic Positions

6/2020-Today Assistant Professor

Department of Informatics and Telecommunications

University of Thessaly

2017 – 6/2020 Teaching Staff, Researcher

Department of Informatics and Telecommunications

National and Kapodistrian University of Athens

2017-2020 Instructor in the Postgraduate Programme

Department of Informatics and Telecommunications

University of Thessaly

2016-2019 Instructor in the Postgraduate Programme

*Department of Informatics and Telecommunications
University of Thessaly*

2014 – 2019 Adjunct Lecturer

*Department of Electrical and Computer Engineering
University of Thessaly*

2001 – 2004 Teaching Assistant

*Department of Forestry and Natural Environment Administration
Technical University of Larissa*

A.4.2. Teaching Experience in Academia

Undergraduate Degree Programme	
Department of Informatics and Telecommunications, University of Thessaly	
Course	Academic year
Data Mining*	2022-2023, 2021-2022, 2020-2021
Algorithms*	2022-2023, 2021-2022, 2020-2021, 2019-2020, 2018-2019, 2017-2018, 2016-2017, 2015-2016
Computational Intelligence and Machine Learning*	2022-2023, 2021-2022, 2020-2021, 2019-2020
Advanced Machine Learning*	2022-2023, 2020-2021, 2019-2020
Data Structures	2021-2022, 2019-2020, 2018-2019, 2017-2018
Object Oriented Programming (lab)	2016-2017, 2015-2016
Operating Systems (Lab)	2016-2017, 2015-2016
Web and Concurrent Programming (Lab)	2016-2017
Department of Digital Industry Technologies, University of Athens	
Course	Academic year
Data Structures and Programming	2020-2021
Department of Informatics and Telecommunications, University of Athens	
Course	Academic year
Operating Systems (Lab)	2019-2020, 2018-2019, 2017-2018
Department of Forestry and Natural Environment Administration, Technical University of Larissa	
Course	Academic year
Applications of Informatics in Forestry and Natural Environment	2003-2004
Introduction to Programming	2001-2002, 2002-2003
Postgraduate Degree Programme	
Department of Informatics and Telecommunications, University of Thessaly	
Course	Academic year
Search Engines	2022-2023, 2021-2022, 2020-2021, 2019-2020, 2018-2019, 2017-2018, 2016-2017
Algorithms	2022-2023

Principles of Data Structures*	2021-2022
Large Scale Systems Simulation	2015-2016
Software Design and Development	2015-2016

Department of Electrical and Computer Engineering, University of Thessaly

Course	Academic year
Data Mining	2020-2021, 2019-2020, 2018-2019, 2017-2018, 2016-2017

Department of Informatics and Telecommunications, University of Athens

Course	Academic year
Web Technologies and E-Commerce	2022-2023, 2021-2022, 2020-2021, 2019-2020
Embedded Systems	2019-2020, 2018-2019
Internet of Things	2019-2020, 2018-2019
Multimedia Systems Lab	2019-2020, 2018-2019, 2017-2018
Web Technologies Lab	2019-2020, 2018-2019, 2017-2018

* Development of the curriculum and the scheduling of the course structure (last update of the curriculum for those courses was performed in 2020 – I was member of the Member of the committee for the curriculum update of the Deptment of Informatics and Telecommunications) – For the remaining courses, I was/am performing the scheduling of the course structure and teaching.

A.4.3. Guest/Invited Lectures

- K. Kolomvatsos, ‘Personalized Health Recommendations adopting Deep Learning Tools’
February 23rd, 2023, Lleida, Spain
Department of Informatics and Industrial Engineering
University of Lleida
- K. Kolomvatsos, ‘The Role of Artificial Intelligence in Education’
October 27th, 2023, Glasgow, UK
School of Education
University of Strathclyde
SICSA DVF funding,
- K. Kolomvatsos, ‘Future Data-Aware Decision Making for Edge Computing’
September 26th, 2023, Glasgow, UK
School of Computing Science
University of Glasgow
SICSA DVF funding
- K. Kolomvatsos, ‘Data Analysis in Semantic and Distributed Databases’, Guest Lecture, Postgraduate Program – Course: Database Systems, December 5th, 2019, Glasgow, UK
School of Computing Science
University of Glasgow
- K. Kolomvatsos, ‘Data Analysis in Semantic and Distributed Databases’, Guest Lecture, Postgraduate Program – Course: Database Systems, November 29th, 2018, Glasgow, UK
School of Computing Science
University of Glasgow
- K. Kolomvatsos, ‘Intelligence over the Edge of the Network’
SEEDA-CECNSM Conference
22-24 September 2018, Kastoria, Greece.

A.5. RESEARCH ACTIVITIES

Research Projects	Principal Investigator	Researcher
European	3	7
National	2	1

A.5.1. Post-Doctoral Research

- 10/2021 - Today Project Manager of **Integrated Technological and Information Platform for wildfire Management (SILVANUS) - H2020**
Department of Informatics and Telecommunications
University of Thessaly
- 9/2022 - Today Project Manager of **Development of Support System for Doctors and Cancer Patients (PLATON) - Investment Innovation Plan, Perfecture of Central Macedonia**, National Funding
Department of Informatics and Telecommunications
University of Thessaly
- 10/2021 - Today Project Manager of **INTELLIGENT NUTRITION ASSISTANT (ELLIOT) - H2020 Shapes Project**
Department of Informatics and Telecommunications
University of Thessaly
- 9/2020 - Today Project Manager of **SaveWoodenBoats**, National Funding
Department of Informatics and Telecommunications
University of Thessaly
- 7/2017 - 5/2020 Project Manager of **ENFORCE** (InteligEnt MoNitoring of NetwORking ServiCEs), FIRE+ - Experiment / Extension of FIRE+ H2020 SoftFIRE Project
Department of Informatics and Telecommunications
University of Thessaly
Subject: Creation of iTV services and a monitoring mechanism of QoS in real time.
- 6/2019 - 6/2020 & 1/2021 - 3/2021 Participation in **OCEAN2020 (Open Cooperation for European mAritime awareNess)**, European Union's Preparatory Action on Defence Research, European Defence Agency (EDA)
Department of Informatics and Telecommunications
University of Athens
- 5/2017 -3/2021 Participation (Consultant) in **ROBORDER (autonomous swarm of heterogeneous Robots for BORDER surveillance under extreme conditions)**
Department of Informatics and Telecommunications
University of Athens

- Subject: Design and creation of an autonomous border surveillance system.
- 1/2015 – 12/2017 & 5/2018 – 8/20218 Participation in **RAWFIE (Road-, Air- and Water-based Future Internet Experimentation)**, Fire+/Horizon 2020.
Department of Informatics and Telecommunications
University of Athens
Subject: Design and creation of the RAWFIE platform, design and creation of a DSL for defining experiments to be executed by the RAWFIE IoT nodes.
- 1/2017 – 10/2017 Participation in **UNITE (ContextUal Inference over IoT Nodes)**, Fire+ H2020 – Extension of Fire+ H2020 WiSHFUL Project
Department of Informatics and Telecommunications
University of Athens
Subject: Design and creation of a monitoring mechanism for securing Quality of Service in network for supporting applications over IoT nodes.
- 3/2013 – 12/2014 Participation in **IDIRA (Interoperability of Data and Procedures in Large Scale Multinational Disaster Response)**, Security/FP7.
Department of Informatics and Telecommunications
University of Athens
Components: Implementation of a Decision Support System (DSS) for a disaster response system, Load balancing for a number of resources.

A.5.2. Research Experience

- 5/2011 – 2/2013 Participation in **IDIRA (Interoperability of Data and Procedures in Large Scale Multinational Disaster Response)**, Security/FP7.
Department of Informatics and Telecommunications
University of Athens
Components: Design and implementation of a Decision Support System (DSS) for a disaster response system, Multicriteria routing (shortest, k-shortest, simplest, k-simplest paths) based on the Analytical Hierarchy Process (AHP), Optimal spatial partitioning for resources allocation.
- 4/2009 – 5/2009 Participation (Consultant) in **ShoppingMate (A Location and Context-aware Service for Assisting Consumers During their Shopping Time)**, ICT.
Mobics Ltd.
Components: Design of an Ontology for a shopping system
Technologies: Java, OWL
- 10/2008 – 2/2011 Participation in **IPAC (Integrated Platform for Autonomic Computing)**, ICT.
Department of Informatics and Telecommunications
University of Athens.

- Components: Design and implementation of Domain Specific Language (DSL), Design and implementation of an application profile editor, Implementation of OSGi services for the middleware of an ad hoc system, Design and Implementation of a logging Server for an ad hoc system, Design and implementation of a Debugger for a DSL.
- 5/2008 – 9/2008 Participation in **SCIER (Sensor and Computing Infrastructure for Environmental Risks)**, IST.
*Department of Informatics and Telecommunications
University of Athens*
- Components: Software development for sensor management.
- 8/2006 – 12/2007 Participation in **Mnisiklis**, National Funding
*Department of Informatics and Telecommunications
University of Athens.*
- Components: Use of ArcGis for administrating spatial data, Java software for the automatic ontology population based on spatial data, Design and implementation of a content ontology, Design and implementation of a Semantic Content Management System (SCMS).

A.6. INTERNATIONALIZATION & PROFESSIONAL DEVELOPMENT

- 7/2022 - 10/2022 Granted as a Distinguished Visiting Fellow, SICSA DVF funding call
Host Institutions: University of Glasgow, University of Strathclyde

A.7. GRANTS & FUNDING

- **Development of Support System for Doctors and Cancer Patients (PLATON) – Investment Innovation Plan, Prefecture of Central Macedonia**
Role: Principal Investigator
Host Institution: Department of Informatics and Telecommunications, University of Thessaly
Duration: September 27th, 2022 – March 26th, 2024
- **Integrated Technological and Information Platform for wildfire Management (SILVANUS) – H2020**
Role: Principal Investigator
Host Institution: Department of Informatics and Telecommunications, University of Thessaly
Duration: October 1st, 2021 – March 31st, 2025
- **INTELLIGENT NUTRITION ASSISTANT (ELLIOT) – H2020 Shapes Project**
Role: Principal Investigator
Host Institution: Department of Informatics and Telecommunications, University of Thessaly
Duration: October 1st, 2021 – March 30th, 2023
- **SaveWoodenBoats**
Role: Principal Investigator
Host Institution: Department of Informatics and Telecommunications, University of Thessaly
Duration: September 29th, 2020 – March 28th, 2023

- **INtelligeNt ApplicatiONs oVer Large ScAle DaTa StrEams (INNOVATE)**
MARIE SKŁODOWSKA-CURIE INDIVIDUAL FELLOWSHIPS, 2016
Seal of Excellence
- **InteligEnt MoNitoring oF NetwORking ServiCEs (ENFORCE),**
FIRE+ - Experiment / Extension of FIRE+ H2020 SoftFIRE Project
Role: Principal Investigator
Host Institution: Department of Informatics and Telecommunications, University of Thessaly
Duration: July 10th, 2017 – May 29th, 2020

A.8. PUBLICATIONS¹

The total number of publications per calendar year is as follows:

Year	Journals	Conferences	Book Chapters	Technical Reports	Editorship	Total
2023		1				1
2022	10	7			1	18
2021	6	11	2			19
2020	6	10	1		1	18
2019	6	8	2			16
2018	4	8	1		1	14
2017	5	2				7
2016	7		1			8
2015	6	2			1	9
2014	6					6
2013	2	3			1	6
2012	3		1			4
2011			1			1
2010		2	1			3
2009		2		1		3
2008		3	2	1		6
2007		1	1			2
Total	61	60	13	2	5	141

A.8.1. International Journals

- J61 Papathanasaki, M., Fountas, P., Kolomvatsos, K., ‘An Uncertainty-Driven Proactive Self-Healing Model for Pervasive Applications’, *Network* 2022, 2, 568–582. <https://doi.org/10.3390/network2040033>.
- J60 Long, Q., Kolomvatsos, K., Anagnostopoulos, C., ‘Knowledge Reuse in Edge Computing Environments’, accepted for publication in *Journal of Network and Computer Applications (JNCA)*, Elsevier, 2022.
- J59 Tragoudaras, A., Stoikos, P., Fanaras, K., Tziouvaras, A., Floros, G., Dimitriou, G., Kolomvatsos, K., Stamoulis, G., ‘Design Space Exploration of a Sparse MobileNetV2 Using High-Level Synthesis and Sparse Matrix Techniques on FPGAs’, *Sensors*, 22, 4318, 2022, <https://doi.org/10.3390/s22124318>.

¹ Monographs are annotated with *

- J58*** Kolomvatsos, K., 'A Proactive Inference Scheme for Data-Aware Decision Making in Support of Pervasive Applications', accepted for publication in *Future Generation Computer Systems (FGCS)*, Elsevier, 2022.
- J57 Anagnostopoulos, C., Aladwani, T., Alghamdi, I., Kolomvatsos, K., 'Data-driven Analytics Task Management Reasoning Mechanism in Edge Computing', *Smart Cities* 2022, 5, 562–582. <https://doi.org/10.3390/smartcities5020030>.
- J56 Vavougiou, G., Stavrou, V., Konstantatos, C., Sinigalias, P.-C., Zarogiannis, S., Kolomvatsos, K., Stamoulis, G., Gourgoulis, K., 'COVID-19 Phenotypes and Comorbidity: A Data-Driven, Pattern Recognition Approach Using National Representative Data from the United States', *International Journal of Environmental Research and Public Health*, 19, 4630, 2022.
- J55 Harth, N., Anagnostopoulos, C., Voegel, H.-J., Kolomvatsos, K., 'Local & Federated Learning at the Network Edge for Efficient Predictive Analytics', accepted for publication in *Future Generation Computer Systems*, Elsevier, 2022.
- J54 Kolomvatsos, K., Anagnostopoulos, C., 'A Proactive Statistical Model Supporting Services and Tasks Management in Pervasive Applications', *IEEE Transactions on Network and Service Management*, vol. 19(3), 2022, pp. 3020-3031.
- J53 Ziouris, G., Kolomvatsos, K., Stamoulis, G., 'Credit Card Fraud Detection using a Deep Learning Multistage Model', accepted for publication in *Journal of Supercomputing*, Springer, 2022.
- J52 Panagiotis Fountas, Kostas Kolomvatsos, 'An Ensemble Model for Data Imputation to Support Pervasive Applications', accepted in *International Journal on Artificial Intelligence Tools*, 2022.
- J51 Soula, M., Karanika, A., Kolomvatsos, K., Anagnostopoulos, C., Stamoulis, G., 'Intelligent Tasks Allocation at the Edge based on Machine Learning and Bio-Inspired Algorithms', accepted in *Evolving Systems*, Springer, 2021.
- J50 Kolomvatsos, K., Kalouda, M., Papadopoulou, P., Hadjiefthymiades, S., 'Fuzzy Trust Modeling for Pervasive Computing Applications', *Journal of data Intelligence*, vol. 2, No.2 (2021) 101-115.
- J49*** Kolomvatsos, K., 'Data-driven Type-2 Fuzzy Sets for Tasks Management at the Edge' *IEEE Transactions on Emerging Topics in Computational Intelligence (TETCI)*, 2021.
- J48 Oikonomou, P., Karanika, A., Anagnostopoulos, C., Kolomvatsos, K., 'On the Use of Intelligent Models towards Meeting the Challenges of the Edge Mesh', *ACM Computing Surveys*, vol. 54(6), 2021.
- J47 Kolomvatsos, K., Anagnostopoulos, C., 'Proactive, Uncertainty-Driven Queries Management at the Edge', *Future Generation Computer Systems (FGCS)*, Elsevier, 2021, <https://doi.org/10.1016/j.future.2020.12.028>.
- J46*** Kolomvatsos, K., 'Proactive Tasks Management for Pervasive Computing Applications', *Journal of Network and Computer Applications (JNCA)*, Elsevier, Volume 176, 102948, 2021.
- J45 Kolomvatsos, K., Anagnostopoulos, C., 'A Deep Learning Model for Demand-driven, Proactive Tasks Management in Pervasive Computing', *IoT, MDPI*, 1(2), 240-258; <https://doi.org/10.3390/iot1020015>, 2020.

- J44 Kolomvatsos, K., Anagnostopoulos, C., Koziri, M., Loukopoulos, T., 'Proactive & Time-Optimized Data Synopsis Management at the Edge', *IEEE Transactions on Knowledge and Data Engineering (IEEE TKDE)*, accepted in 2020 and published in July 2022, vol. 34, no. 7, pp. 3478-3490, doi: 10.1109/TKDE.2020.3021377..
- J43 Kolomvatsos, K., Anagnostopoulos, C., 'An Intelligent Edge-Centric Queries Allocation Scheme based on Ensemble Models', *ACM Transactions on Internet Technology (TOIT)*, Article No.: 45 <https://doi.org/10.1145/3417297>, 2020.
- J42 Savva, F., Anagnostopoulos, C., Triantafillou, P., Kolomvatsos, K., 'Large-scale Data Exploration using Explanatory Regression Functions', *ACM Transactions on Knowledge Discovery from Data (TKDD)*, Article No.: 76 <https://doi.org/10.1145/3410448>, 2020.
- J41 Yiannis Kathidjiotis, Kostas Kolomvatsos, Christos Anagnostopoulos, 'Predictive Intelligence of Reliable Analytics in Distributed Computing Environments', *Springer Applied Intelligence*, 50, pp. 3219-3238, 2020.
- J40 K. Kolomvatsos, C. Anagnostopoulos, 'A Probabilistic Model for Assigning Queries at the Edge', *Computing, Springer*, <https://doi.org/10.1007/s00607-019-00767-8>, 2020.
- J39 Christos Anagnostopoulos, Kostas Kolomvatsos, 'An Intelligent, Time-Optimized Monitoring Scheme for Edge Nodes', *Elsevier Journal of Network and Computer Applications*, vol. 148, 2019.
- J38*** K. Kolomvatsos, 'An Efficient Scheme for Applying Software Updates in Pervasive Computing Applications', *Journal of Parallel and Distributed Computing, Elsevier*, vol. 128, 2019, pp. 1-14.
- J37 P. Oikonomou, A. Dadaliaris, K. Kolomvatsos, T. Loukopoulos, A. Kakarountas, G. Stamoulis, 'Improved Parallel Legalization Schemes for Standard Cell Placement with Obstacles', *Technologies, MPDI*, vol. 7(3), 2019.
- J36*** K. Kolomvatsos, 'A Distributed, Proactive Intelligent Scheme for Securing Quality in Large Scale Data Processing', *Springer Computing*, 2019, pp. 1-24, <https://doi.org/10.1007/s00607-018-0683-9>.
- J35 K. Kolomvatsos, C. Anagnostopoulos, 'Multi-criteria Optimal Task Allocation at the Edge', *Elsevier Future Generation Computer Systems*, vol. 93, 2019, pp. 358-372.
- J34*** K. Kolomvatsos, 'Time-Optimized Management of Mobile IoT Nodes for Pervasive Applications', *Journal of Networking and Computer Applications, Elsevier*, vol. 125, 2019, pp. 155-167.
- J33*** K. Kolomvatsos, 'An Intelligent, Uncertainty Driven Management Scheme for Software Updates in Pervasive IoT Applications', *Elsevier Future Generation Computer Systems*, vol. 83, 2018, pp. 116-131.
- J32*** K. Kolomvatsos, 'An Intelligent Scheme for Assigning Queries', *Springer Applied Intelligence*, doi <https://doi.org/10.1007/s10489-017-1099-5>, 2017.
- J31*** K. Kolomvatsos, 'Time-Optimized Management of IoT Nodes', *Elsevier Ad Hoc Networks*, vol. 69, 2018, pp. 1-14.
- J30 Christos Anagnostopoulos, Kostas Kolomvatsos, 'Predictive Intelligence to the Edge through Approximate Collaborative Context Reasoning' *Springer Applied Intelligence*, vol. 48(4), 2018, pp. 966-991.
- J29 K. Kolomvatsos, C. Anagnostopoulos, 'Reinforcement Machine Learning for

- Predictive Analytics in Smart Cities', *Informatics, MDPI*, 4, 16, 2017.
- J28 Anagnostopoulos, T., Kolomvatsos, K., Medvedev, A., Amirian, P., Morley, J., Hadjiefthymiades, S., Zaslavsky, A., Challenges and Opportunities of Waste Management in IoT-enabled Smart Cities: A Survey', *IEEE Transactions on Sustainable Computing*, 2017.
- J27 K. Kolomvatsos, S. Hadjiefthymiades, 'Predictive Intelligence in Analytics Aggregation of Partially Ordered Subsets', accepted for publication in *IEEE Transactions on Systems, Man and Cybernetics: Systems*, 2017.
- J26 K. Kolomvatsos, C. Anagnostopoulos, S. Hadjiefthymiades, 'Distributed Localized Contextual Event Reasoning under Uncertainty', *IEEE Internet of Things Journal*, vol. 4(1), 2017, pp. 183-191.
- J25 K. Kolomvatsos, S. Hadjiefthymiades, 'Learning the Engagement of Query Processors for Intelligent Analytics', *Springer Applied Intelligence Journal*, vol. 46(1), 96-112, 2017.
- J24 K. Kolomvatsos, K. Panagidi, I. Neokosmidis, D. Varoutas, S. Hadjiefthymiades, 'Automated Concurrent Negotiations: An Artificial Bee Colony Approach', *Elsevier Electronic Research and Applications (ECRA)*, vol. 19, 2016, pp. 56-69.
- J23 Jankowski, J., Goode, S., Kolomvatsos, K., Kazienko, P., Watrobski, J., 'Fuzzy Modeling of User Behaviours and Virtual Goods Purchases in Social Networking Platforms', *Special Issue on Analyzing and Mining Social Networks for Decision Support, Journal of Universal Computer Science*, vol. 22(3), pp. 416-437, 2016.
- J22 K. Kolomvatsos, C. Anagnostopoulos, S. Hadjiefthymiades, 'Data Fusion & Type-2 Fuzzy Inference in Contextual Data Stream Monitoring', *IEEE Transactions on Systems, Man and Cybernetics: Systems*, vol. PP, Issue 99, pp.1-15, 2016.
- J21*** K. Kolomvatsos, 'An Intelligent, Uncertainty Driven Aggregation Scheme for Streams of Ordered Sets', *Springer Applied Intelligence (APIN)*, doi 10.1007/s10489-016-0789-8, pp. 1-23, 2016.
- J20 C. Anagnostopoulos, K. Kolomvatsos, 'A Delay-Resilient and Quality-aware Mechanism over Incomplete Contextual Data Streams', *Elsevier Information Sciences Journal (INS)*, vol. 355-356, pp. 90-109, 2016.
- J19 C. Anagnostopoulos, S. Hadjiefthymiades, K. Kolomvatsos, 'Accurate, Dynamic & Distributed Localization of Phenomena for Mobile Sensor Networks', *ACM Transactions on Sensor Networks (TOSN)*, vol. 12(2), art. No 9, 2016.
- J18*** K. Kolomvatsos, 'Effective Problem Solving through Fuzzy Logic Knowledge Bases Aggregation', *Soft Computing Journal, Springer*, vol. 20(3), 2016, pp. 1071-1092.
- J17 K. Kolomvatsos, C. Anagnostopoulos, S. Hadjiefthymiades, 'Contextual Reasoning under Uncertainty in Sensor Data Stream Monitoring', *International Journal of Monitoring and Surveillance Technologies Research*, vol. 3(2), pp. 1-19, 2015.
- J16 T. Anagnostopoulos, K. Kolomvatsos, C. Anagnostopoulos, A. Zaslavsky, S. Hadjiefthymiades, 'Assessing Dynamic Models for High Priority Waste Collection in Smart Cities', *Elsevier Journal of Systems and Software*, vol. 110, 2015, pp. 178-192.
- J15 K. Kolomvatsos, C. Anagnostopoulos and S. Hadjiefthymiades, 'A Time Optimized Scheme for Top-k List Maintenance over Incomplete Data Streams', *Elsevier Information Sciences (INS)*, vol. 311, pp. 59-73 2015.

- J14 C. Anagnostopoulos, S. Hadjiefthymiades and K. Kolomvatsos, 'Time Optimized User Grouping in Location Based Services', *Elsevier Computer Networks (COMNET)*, vol. 81, pp. 220-244, 2015.
- J13 K. Kolomvatsos, C. Anagnostopoulos, S. Hadjiefthymiades, 'An Efficient Time-Optimized Scheme for Progressive Analytics in Big Data', *Elsevier Big Data Research*, vol. 2(4), 2015, pp. 155-165.
- J12 K. Kolomvatsos, K. Panagidi, S. Hadjiefthymiades, 'A Load Balancing Module for Post-Emergency Management', *Elsevier Expert Systems with Applications (ESWA)*, vol. 42(1), 2015, pp. 657-667.
- J11 K. Kolomvatsos, D. Trivizakis, S. Hadjiefthymiades, 'An Adaptive Fuzzy Logic System for Automated Negotiations', *Elsevier Fuzzy Sets and Systems (FSS)*, Volume 269, Pages 135-152, 2015.
- J10 K. Kolomvatsos, C. Anagnostopoulos and S. Hadjiefthymiades, 'An Efficient Recommendation System based on the Optimal Stopping Theory', *Elsevier Expert Systems with Applications (ESWA)*, vol. 41(15), 2014.
- J09 K. Kolomvatsos, C. Anagnostopoulos and S. Hadjiefthymiades, 'Sellers in E-Marketplaces: A Fuzzy Logic based Decision Support System', *Elsevier Information Sciences*, vol. 278, pp. 267-284, 2014.
- J08 K. Panagidi, K. Kolomvatsos, S. Hadjiefthymiades, 'An Intelligent Scheme for Concurrent Multi-Issue Negotiations', *International Journal of Artificial Intelligence (IJAI)*, vol. 12(1), 2014, pp. 129-149.
- J07 K. Kolomvatsos and S. Hadjiefthymiades, 'On the Use of Particle Swarm Optimization and Kernel Density Estimator in Concurrent Negotiations', *Elsevier Information Sciences (INS)*, vol. 262, 2014, pp. 99-116.
- J06 B. Lika, K. Kolomvatsos, S. Hadjiefthymiades, 'Facing the Cold Start Problem in Recommender Systems', *Elsevier Expert Systems with Applications (ESWA)*, vol. 41(4), 2014, pp. 2065-2073.
- J05 K. Kolomvatsos, C. Anagnostopoulos, and S. Hadjiefthymiades, 'Determining the Optimal Stopping Time for Automated Negotiations', *IEEE Transactions on Systems, Man and Cybernetics (Part A)*, vol. PP(99), doi 10.1109/TSMC.2013.2279665, 2013.
- J04 K. Kolomvatsos and S. Hadjiefthymiades, 'An Extended Q-Gram Algorithm for Calculating the Relevance Factor of Products in Electronic Markets', *Elsevier Electronic Commerce Research and Applications (ECRA)*, vol. 12(6), 2013, pp. 397-411.
- J03 Kostas Kolomvatsos, George Valkanas, and Stathes Hadjiefthymiades, 'Debugging Applications Created by a Domain Specific Language: The IPAC Case', *Elsevier Journal of Systems and Software (JSS)*, vol. 85(4), April 2012, pp. 932-943.
- J02 Kostas Kolomvatsos and Stathes Hadjiefthymiades, 'Buyer Behavior Adaptation Based on a Fuzzy Logic Controller and Prediction Techniques', *Elsevier Fuzzy Sets and Systems (FSS)*, vol. 189(1), Feb. 2012, pp. 30-52.
- J01 K. Kolomvatsos, C. Anagnostopoulos, and S. Hadjiefthymiades, 'A Fuzzy Logic System for Bargaining in Information Markets', *ACM Transactions on Intelligent Systems and Technology (ACM TIST)*, vol. 3(2), Feb. 2012, art. No 32, pp. 1-26.

A.8.2. International Conferences

- C59 Aladwani, T., Anagnostopoulos, C., Kolomvatsos, K., Alghamdi, I., Deligianni, F., 'Query-driven Edge Node Selection in Distributed Learning Environments', *Data-driven Smart Cities (DASC) in 39th IEEE International Conference on Data Engineering (ICDE 2023)*, Anaheim, California, USA, April 3-7 2023.
- C58 Panagidi, K., Riazuelo, L., Alonso, I., Murillo, A. C., Montano, L., Cantero, M., Martins, R., Kolomvatsos, K., Hadjiefthymiades, S., 'On the Innovative Management of Remote Robotic Experimentation', in the *5th Iberian Robotics Conference (ROBOT 22)*, Zaragoza, Spain, November 23-25, 2022.
- C57 Wang, Q., Mateo Fornes, J., Anagnostopoulos, C., Kolomvatsos, K., 'Predictive Model Resilience in Edge Computing', in the *8th IEEE World Forum on Internet of Things (IEEE WFIoT2022)*, Oct. 26 - Nov. 11, Yokohama, Japan, 2022.
- C56 Boulougaris, G., Kolomvatsos, K., 'A QoS-aware, Proactive Tasks Offloading Model for Pervasive Applications', *9th International Conference on Future Internet of Things and Cloud (FiCloud)*, 22-24 Aug, Rome, Italy, 2022.
- C55 Aladwani, T., Anagnostopoulos, C., Alghamdi, I., Kolomvatsos, K., 'Data-driven Analytics Task Management at the Edge: A Fuzzy Reasoning Approach', *9th International Conference on Future Internet of Things and Cloud (FiCloud)*, 22-24 Aug, Rome, Italy, 2022.
- C54 Scotti, X., Anagnostopoulos, C., Kolomvatsos, K., 'On the Reusability of Machine Learning Models in Edge Computing: A Statistical Learning Approach', *Future Technologies Conference (FTC)*, 20-21 October, Vancouver, Canada, 2022.
- C53 Fountas, P., Papathanasaki, M., Kolomvatsos, K., Anagnostopoulos, C., 'Query Driven Data Subspace Mapping', *IFIP 18th International Conference on Artificial Intelligence Applications and Innovations (IAI)*, Crete, Greece, Hybrid, 17 - 20 June, 2022.
- C52 Albanis, G., Chatzitofis, A., Thermos, S., Zioulis, N., Kolomvatsos, K., 'Towards Scalable and Real-Time Markerless Motion Capture', *IEEE Conference on Virtual Reality*, 12-16 March, 2022
- C51 Panagiotis Fountas, Maria Papathanasaki, Kostas Kolomvatsos, Nikos Tziritas, 'Proactive Attack Detection at the Edge through an Ensemble Deep Learning Model', *20th International Conference on Ubiquitous Computing and Communications (IUCC)*, 20-22 December, London, UK, 2021.
- C50 Panagiotis Oikonomou, Nikos Tziritas, Kostas Kolomvatsos, Thanasis Loukopoulos, 'Fast Heuristics for Mixed Fleet Capacitated Multiple TSP with Applications to Location Based Games and Drone Assisted Transportation"', *25th Pan-Hellenic Conference on Informatics*, Nov. 26-28, Volos, Greece, 2021.
- C49 Nikos Pappas, Panagiotis Oikonomou, Nikos Tziritas, Kostas Kolomvatsos, Thanasis Loukopoulos, 'Bin Packing Heuristics for the Multiple Workflow Scheduling Problem', *25th Pan-Hellenic Conference on Informatics*, Nov. 26-28, Volos, Greece, 2021.
- C48 Oikonomou, P., Kolomvatsos, K., Anagnostopoulos, C., Tziritas, N., Theodoropoulos, G., 'A Probabilistic Batch Oriented Proactive Workflow Management', *33rd IEEE International Conference on Tools with Artificial Intelligence (ICTAI)*, Virtual Conference, Nov. 1-3, 2021.

- C47 Fountas, P., Kolomvatsos, K., 'Proactive, Correlation Based Anomaly Detection at the Edge', *33rd IEEE International Conference on Tools with Artificial Intelligence (ICTAI)*, Virtual Conference, Nov. 1-3, 2021.
- C46 Polycarpou, O., Anagnostopoulos, C., Kolomvatsos, K., 'Optimal Load-Aware Task Offloading in Mobile Edge Computing', in *8th International Conference of Control, Dynamic Systems, and Robotics (CDSR'21)*, May 23-25, Niagara Falls, Canada (Virtually), 2021.
- C45 Kolomvatsos, K., Anagnostopoulos, C., 'Landmark based Outliers Detection in Pervasive Applications', *12th International Conference on Information and Communication Systems (ICICS 2021)*, 24-26 May, Valencia - Spain (Virtual), 2021.
- C44 Jodelka, O., Anagnostopoulos, C., Kolomvatsos, K., 'Adaptive Novelty Detection over Contextual Data Streams at the Edge using One-class Classification', *12th International Conference on Information and Communication Systems (ICICS 2021)*, 24-26 May, Valencia - Spain (Virtual), 2021.
- C43 Koukaras, T., Kolomvatsos, K., 'Proactive Data Allocation in Distributed Datasets based on an Ensemble Model', *12th International Conference on Information and Communication Systems (ICICS 2021)*, 24-26 May, Valencia - Spain (Virtual), 2021.
- C42 Zioviris, G., Kolomvatsos, K., Stamoulis, G., 'On the Use of a Sequential Deep Learning Scheme for Financial Fraud Detection', *Computing Conference*, London, UK, 15-16 July, 2021.
- C41 Fountas, P., Kolomvatsos, K., Anagnostopoulos, C., 'A Deep Learning Model for Data Synopses Management in Pervasive Computing Applications', *Computing Conference*, London, UK, 15-16 July, 2021.
- C40 Oikonomou, P., Kolomvatsos, K., Loukopoulos, T., 'Resource Provisioning Schemes for Multiple Workflow Scheduling with Seclusion Requirements', in *24th Pan-Hellenic Conference on Informatics*, Athens, Greece, Nov. 20-22, 2020.
- C39*** Kolomvatsos, K., 'A Proactive Uncertainty Driven Model for Data Synopses Management in Pervasive Applications', in *6th IEEE International Conference on Data Science and Systems*, December 14-16, Fiji, 2020.
- C38 Oikonomou, P., Kolomvatsos, K., Tziritas, N., Theodoropoulos, G., Loukopoulos, T., Stamoulis, G., 'Uncertainty Driven Workflow Scheduling Using Unreliable Cloud Resources', in *IEEE International Symposium on Network Computing and Applications (NCA)*, November 24-27, 2020.
- C37*** Kolomvatsos, K., 'Probabilistic Data Allocation in Pervasive Computing Applications', *19th International Conference on Ubiquitous Computing and Communications (IUCC) in conjunction with the 18th IEEE International Symposium on Parallel and Distributed Processing with Applications (ISPA)*, December 17-19, 2020, Exeter, UK.
- C36 Fountas, P., Kolomvatsos, K., 'Ensemble based Data Imputation at the Edge', *32nd International Conference on Tools with Artificial Intelligence (ICTAI)*, Nov. 9-11, 2020. **[Best Student Paper Award]**
- C35 A. Karanika. P. Oikonomou, K. Kolomvatsos, C. Anagnostopoulos, 'An Ensemble Interpretable Machine Learning Scheme for Securing Data Quality at the Edge', in *International IFIP Cross Domain (CD) Conference for Machine Learning & Knowledge Extraction (MAKE) - CD-MAKE 2020*, August 25-28, 2020.

- C34 K. Kolomvatsos, M. Kalouda, P. Papadopoulou, S. Hadjiefthymiades, 'A Fuzzy Trust Model for Autonomous Entities Acting in Pervasive Computing', *17th International Conference on Trust, Privacy and Security in Digital Business*, Sept. 14-17, Bratislava, Slovakia, 2020.
- C33 P. Fountas, K. Kolomvatsos, 'A Continuous Data Imputation Mechanism based on Streams Correlation', in *10th Workshop on Management of Cloud and Smart City Systems*, in conjunction with IEEE Symposium on Computers and Communications (ISCC), 2020.
- C32 Karanika, A., Oikonomou, P., Kolomvatsos, K., Loukopoulos, T., 'A Demand-driven, Proactive Tasks Management Model at the Edge', *IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)*, IEEE World Congress on Computational Intelligence (WCCI), Glasgow, UK, 2020.
- C31 T. Tziouvaras, K. Kolomvatsos, 'Intelligent Monitoring of Virtualized Services', in *8th European Conference on Service-Oriented and Cloud Computing, EU Projects track*, Heraklion, Crete, 2020.
- C30 Karanika, A., Soula, M., Anagnostopoulos, C., Kolomvatsos, K., Stamoulis, G., 'Optimized Analytics Query Allocation at the Edge of the Network', in *12th International Conference on Internet and Distributed Computing Systems*, Naples, Italy, Oct. 10-12, 2019.
- C29 Tsoukas, V., Kolomvatsos, K., Chioktour, V., Kakarountas, A., 'A Comparative Assessment of Machine Learning Algorithms for Events Detection', in *4th South-East Europe Design Automation, Computer Engineering, Computer Networks and Social Media Conference (SEEDA-CECNSM)*, Sept. 2019.
- C28 K. Kolomvatsos, P. Papadopoulou, C. Anagnostopoulos, S. Hadjiefthymiades, 'A Spatio-Temporal Data Imputation Model for Supporting Analytics at the Edge', *18th IFIP Conference on e-Business, e-Services, and e-Society*, Norway, Sept. 2019.
- C27 P. Papadopoulou, K. Kolomvatsos, S. Hadjiefthymiades, 'Internet of Things Business Models: The RAWFIE Case', *18th IFIP Conference on e-Business, e-Services, and e-Society*, Norway, Sept. 2019.
- C26 Panagou, N., Koziri, M., Papadopoulos, P., Oikonomou, P., Tziritas, N., Kolomvatsos, K., Loukopoulos, T., Khan, S., 'Evaluation of Heterogeneous Scheduling Algorithms for Wavefront and Tile Parallelism in Video Coding', in *International Conference in Internet of Things (ICIOT)*, 2019.
- C25 E. Aleksandrova, C. Anagnostopoulos, K. Kolomvatsos, 'Machine Learning Model Updates in Edge Computing: An Optimal Stopping Theory Approach', in *18th IEEE International Symposium on Parallel and Distributed Computing*, Amsterdam, Netherlands, June 5-7, 2019.
- C24 P. Papadopoulos, N. Panagou, M. Koziri, K. Kolomvatsos, T. Loukopoulos, I. Anagnostopoulos, 'Coding Time Prediction in H.264/HVEC Transcoding Using Macrobloc Sizes', in *14th International Workshop on Semantic and Social Media Adaptation and Personalization*, in conjunction with the *27th ACM Conference on User Modeling, Adaptation and Personalization*, Larnaca, Cyprus, 9-12 June, 2019.
- C23 S. Sagkriotis, K. Kolomvatsos, C. Anagnostopoulos, D. Pezaros, S. Hadjiefthymiades, 'Knowledge-Centric Analytics Queries Allocation in Edge Computing Environments', accepted for publication in the *IEEE Symposium on Computers and*

- Communications* (ISCC), Bececlona, Spain, 2019.
- C22 K. Kolomvatsos, C. Anagnostopoulos, 'An Edge-Centric Ensemble Scheme for Queries Assignment', in *8th International Workshop on Combinations of Intelligent Methods and Applications* in conjunction with the *30th International Conference on Tools with Artificial Intelligence*, Nov. 5-7, Volos, Greece, 2018.
- C21 K. Kolomvatsos, C. Anagnostopoulos, 'In-Network Edge Intelligence for Optimal Task Allocation', in *30th International Conference on Tools with Artificial Intelligence*, Nov. 5-7, Volos, Greece, 2018.
- C20 K. Kolomvatsos, M. Koziri, T. Loukopoulos, 'An Intelligent Scheme for the Identification of QoS Violations in Virtualized Environments', in *30th International Conference on Tools with Artificial Intelligence*, Nov. 5-7, Volos, Greece, 2018.
- C19 K. Kolomvatsos, P. Papadopoulou, S. Hadjiefthymiades, 'Data Storage in Internet of Things: A Proposed Distributed model', *12th Mediterranean Conference on Information Systems*, Corfu, Greece, Sept. 28-30, 2018.
- C18 K. Kolomvatsos, P. Oikonomou, M. Koziri, T. Loukopoulos, 'A Distributed Data Allocation Scheme for Autonomous Nodes', *IEEE International Conference on Scalable Computing and Communications*, Guangzhou, China, Oct. 8-12, 2018.
- C17 K. Kolomvatsos, T. Loukopoulos, 'Scheduling the Execution of Tasks at the Edge', in *2018 IEEE Conference on Evolving and Adaptive Intelligent Systems (EAIS 2018)*, Rhodes, Greece, May 25-27, 2018.
- C16 T. Loukopoulos, M. Koziri, K. Kolomvatsos, P. Oikonomou, 'On Green Scheduling for Desktop Grids', Pervasive Information Systems Workshop, *6th International Conference on Information Systems and Technologies*, Naples, Italy, March 27-29, 2018, pp. 330-340.
- C15 Panagiota Papadopoulou, Kostas Kolomvatsos, Kyriaki Panagidi, Stathes Hadjiefthymiades, 'Investigating the Business Potential of Internet of Things', in Proceedings of the *Mediterranean Conference on Information Systems*, Genoa, Italy, Sept. 4-6, 2017.
- C14 K. Kolomvatsos, C. Anagnostopoulos, A. Marnarides, Q. Ni, S. Hadjiefthymiades, D. Pezaros, 'Uncertainty-driven Ensemble Forecasting of QoS in Software Defined Networks', in Proceedings of the *22nd IEEE Symposium on Computers and Communications (ISCC)*, Heraklion, Greece, 2017, pp. 1286-1291.
- C13 K. Kolomvatsos, C. Anagnostopoulos, S. Hadjiefthymiades, 'An Efficient Environmental Monitoring System adopting Data Fusion, Prediction and Fuzzy Logic', *6th International Conference on Information, Intelligence, Systems and Applications*, Corfu, Greece, 2015.
- C12 K. Kolomvatsos, C. Anagnostopoulos, S. Hadjiefthymiades, 'Intelligent Contextual Data Stream Monitoring', *8th International Conference on Pervasive Technologies Related to Assistive Environments*, July 2015, Corfu, Greece, 2015.
- C11 C. Anagnostopoulos, K. Kolomvatsos, and S. Hadjiefthymiades, 'Efficient Location Based Services for Groups of Mobile Users', *IEEE Mobile Data Management Conference (MDM)*, Milan, Italy, 2013, pp. 6 - 15.
- C10 K. Panagidi, K. Kolomvatsos and S. Hadjiefthymiades, 'On the Use of PSO with Weights Adaptation in Concurrent Multi-Issue Negotiations', in *10th International Symposium on Distributed Computing and Artificial Intelligence (DCAI)*,

Salamanca, Spain, 2013, pp. 283-290.

- C09 K. Kolomvatsos, K. Panagidi and S. Hadjiefthymiades, 'Optimal Spatial Partitioning for Resource Allocation', in *10th International Conference on Information Systems for Crisis Response and Management (ISCRAM)*, Baden-Baden, Germany, May 12-15, 2013, pp. 747-757.
- C08 G. Boulougaris, K. Kolomvatsos, and S. Hadjiefthymiades, 'Building the Knowledge Base of a Buyer Agent Using Reinforcement Learning Techniques', In Proc. of the *2010 IEEE World Congress on Computational Intelligence (WCCI 2010), IJCNN*, July 18th - 23rd, Barcelona, Spain, pp. 1166-1173.
- C07 R. Arapoglou, K. Kolomvatsos, and S. Hadjiefthymiades, 'Buyer Agent Decision Process Based on Automatic Fuzzy Rules Generation Methods', In Proc. of the *2010 IEEE World Congress on Computational Intelligence (WCCI 2010), FUZ-IEEE*, July 18th - 23rd, Barcelona, Spain, pp. 856-863.
- C06 V. Nomikos, K. Kolomvatsos, and V. Papadopoulos, 'An Application Creation Environment for Autonomic Computing', In *2nd Student Workshop on Wireless Sensor Networks*, Oct. 30-31st, Athens, 2009.
- C05 Kostas Kolomvatsos and Stathes Hadjiefthymiades, 'Automatic Fuzzy Rules Generation for the Deadline Calculation of a Seller Agent', In Proc. of the *9th International Symposium on Autonomous Decentralized Systems (ISADS 2009)*, Athens, Greece, March 23-25, 2009, pp. 429-434.
- C04 V. Papataxiarhis, V. Riga, V. Nomikos, O. Sekkas, K. Kolomvatsos, V. Tsetsos, P. Papageorgas, S. Vourakis, S. Hadjiefthymiades, and G. Kouroupetroglou, 'MNISIKLIS: Indoor Location Based Services for All', In Proc. of the *5th International Symposium on LBS and TeleCartography*, Nov. 26th - 28th, Salzburg, Austria, 2008, pp. 263-282.
- C03 K. Kolomvatsos, C. Anagnostopoulos, and S. Hadjiefthymiades, 'On The Use of Fuzzy Logic in a Seller Bargaining Game', In Proc. of the *32nd Annual IEEE International Computer Software and Applications Conference (COMPSAC 2008)*, July 28th - August 1st, Turku, Finland, 2008, pp. 184-191.
- C02 K. Kolomvatsos and S. Hadjiefthymiades, 'Implicit Deadline Calculation for Seller Agent Bargaining in Information Marketplaces', In Proc. of the *2nd International Conference on Complex, Intelligent and Software Intensive Systems (CISIS 2008)*, March 4th - 7th, Polytechnic University of Catalonia, Barcelona, Spain, 2008, pp. 184-190.
- C01 K. Kolomvatsos, V. Papataxiarhis, and S. Hadjiefthymiades, 'Semantic Location Based Services for Smart Spaces', In Proc. of the *2nd International Conference on Metadata and Semantics Research (MTSR)*, Oct. 11th - 12th, Corfu, Greece, 2007, pp. 515-525.

A.8.3. Posters

- P01 K. Kolomvatsos, C. Anagnostopoulos, 'Intelligent Applications over Large-Scale Data Streams', The Scottish Informatics & Computer Science Alliance (SICSA), DemoFest, Edinburgh, Scotland, Nov. 6th, 2018.

A.8.4. Book Chapters

- BC13 Aladwani, T., Kolomvatsos, K., Deligianni, F., Anagnostopoulos, C., 'Intelligent Data Management in UAV-enabled Mobile Edge Computing: A Review', In Emerging Intelligent Decision Management Systems: Applications and Challenges, Eds Prasant Kumar Pattnaik, Himansu Das, Wiley, 2021.
- BC12 Ghanduri, F., Kolomvatsos, K., Anagnostopoulos, C., 'Predictive Intelligence & Explainability Challenges in Finance: A Review', In Emerging Intelligent Decision Management Systems: Applications and Challenges, Eds Prasant Kumar Pattnaik, Himansu Das, Wiley, 2021.
- BC11 Ivanov, H., Anagnostopoulos, C., Kolomvatsos, K., 'In-Network Machine Learning Predictive Analytics: A Swarm Intelligence Approach', in Convergence of Artificial Intelligence and the Internet of Things, Mastorakis, G., et al., Springer, 2020.
- BC10 K. Kolomvatsos, C. Anagnostopoulos, 'Edge-Centric Queries Stream Management based on an Ensemble Model', in 'Advances in Integration of Intelligent Methods', Springer Volume, 2019.
- BC09 P. Papadopoulou, K. Kolomvatsos, S. Hadjiefthymiades, 'Enhancing E-Government with Internet of Things', in 'Computational Intelligence in the Internet of Things', Chapter 5, IGI Global, 2019.
- BC08 K. Kolomvatsos, M. Koziri, T. Loukopoulos, 'A Recommendation System for Allocating Video Resources in Multiple Partitions', to be published in Big Data Recommender Systems: Recent Trends and Advances, Institution of Engineering and Technology (IET), 2018.
- BC07 K. Kolomvatsos, M. Tsiroukis, S. Hadjiefthymiades, 'An Experiment Description Language for Supporting Mobile IoT Applications' *2016 FIRE Book, European Commission*, River Publishers.
- BC06 Kostas Kolomvatsos, George Valkanas, Petros Patelis, and Stathes Hadjiefthymiades, 'Creating, Debugging and Testing Mobile Applications with the IPAC Application Creation Environment', book chapter in 'Formal and Practical Aspects of Domain-Specific Languages: Recent Developments', ed. Dr M. Mernik, IGI Global, 2012, pp. 341-364.
- BC05 Kostas Kolomvatsos and Stathes Hadjiefthymiades, 'On the Use of Fuzzy Logic in Electronic Marketplaces', in the book 'Cross Disciplinary Applications of Artificial Intelligence and Pattern Recognition: Advancing Technologies', ed. Vijay Mago, IGI Global, 2011, pp. 609-632.
- BC04 Kostas Kolomvatsos and Stathes Hadjiefthymiades, 'Defining Time Constraints for Sellers in Electronic Markets', in the 'Encyclopedia of E-Business Development and Management in the Global Economy', ed. In Lee, IGI Global, 2010, pp. 265-272.
- BC03 Kostas Kolomvatsos and Stathes Hadjiefthymiades, 'How Can We Trust Agents in Multi-Agent Environments?', Chapter in 'Intelligence Integration in Distributed Knowledge Management', eds D. Krol and N. T. Nguyen, IDEA Group Inc., 2008, pp. 2843-2864.
- BC02 Kostas Kolomvatsos and Stathes Hadjiefthymiades, 'Ontologies and Intelligent Agents: A Powerful Bond', Chapter in 'The Semantic Web for Knowledge and Data Management: Technologies and Practices', eds Z. Ma and H. Wang, IDEA Group Inc., 2008, pp. 49-73.
- BC01* Kostas Kolomvatsos, 'Ubiquitous Computing in Education', Chapter in 'Ubiquitous and Pervasive Knowledge and Learning Management: Semantics,

Social Networking and New Media to their Full Potential', IDEA Group Inc., 2007, pp. 94-117.

A.8.5. Technical Reports

- TR02 V. Nomikos, and K. Kolomvatsos, 'Documentation of the IPAC Application Description Language', Technical Report, Department of Informatics and Telecommunications, National and Kapodistrian University of Athens, Sept. 2009.
- TR01 K. Kolomvatsos and V. Tsetsos, 'Spatial Ontology-Based Annotation Using GIS', Technical Report, Department of Informatics and Telecommunications, National and Kapodistrian University of Athens, Feb. 2008.

A.9. ESTEEM INDICATORS & SCIENTIFIC ACTIVITIES

A.9.1. Citations & International Rankings²

Date: 04/02/2023			
Citations:	2026	g-Index:	42
h-Index:	19	Cites / Per Year:	126.63
i10-Index	39	Cites / per Paper:	11.51

International Rankings

Year: 2021 ³	
Scientific Field:	Artificial Intelligence & Image Processing
Rank Within Scientific Field:	7.595
Total Number of Authors in the Field:	546.033
Ranking:	Top 2%

A.9.2. Editorship

- Guest Editor of the Special Issue in '*Intelligent Circuits and Sensing Technologies*', Sensors, MDPI, 2022
- Guest Editor of the Special Issue in '*Recent Advancement in Edge/Fog Computing for Intelligent IoT Applications*', Sensors, MDPI, 2020.
- Guest Editor of the Special Issue in '*Mobile Sensor Networks*', Journal of Electronics, MPDI AG, 2018.
- Guest Editor of the Special Issue in '*Machine Learning and Computational Intelligence in Big Data*', International Journal of Machine Learning and Cybernetics, Springer, 2015.
- Kostas Kolomvatsos, Christos Anagnostopoulos & Stathes Hadjiefthymiades, 'Intelligent Technologies and Techniques for Pervasive Computing', published by IGI Global, May 2013.

² Source: Publish or Perish, Google Scholar

³ September 2022 data-update for "Updated science-wide author databases of standardized citation indicators" Published: 10 October 2022 | Version 4 | DOI: 10.17632/btchxktyw.4

A.9.3. Editorial Leadership

- 10/2021 – 9/2023: Associate Editor IEEE Access

A.9.4. Editorial Board Member

- Applied Intelligence, The International Journal of Research on Intelligent Systems for Real Life Complex Problems, Springer
- International Journal of Computer & Software Engineering, Graphy Publications

A.9.5. Conference/Workshop Organizer

1. Co-organizer of the *Convergence of Edge Intelligence in IoT (EdgeAI-IoT 2022) Workshop, IEEE 8th World Forum on Internet of Things*, 26 October–11 November 2022, Yokohama, Japan (<https://wfiot2022.iot.ieee.org/track-1/>).
2. Co-organizer of the *7th Pervasive Information Systems (PIS) Workshop, 9th World Conference on Information Systems and Technologies 2021 (WorldCist 21)*, Terceira Island, Azores, Portugal.
3. Co-organizer of the *Pervasive Information Systems (PIS) Workshop, 8th World Conference on Information Systems and Technologies 2020 (WorldCist 20)*, Budva, Montenegro.
4. Co-organizer of the *Pervasive Information Systems (PIS) Workshop, 7th World Conference on Information Systems and Technologies 2019 (WorldCist 19)*, La Toja Island, Spain.
5. Co-organizer of the *Pervasive Information Systems (PIS) Workshop, 6th World Conference on Information Systems and Technologies 2018 (WorldCist 18)*, Naples, Italy.
6. Co-organizer of the *Pervasive Information Systems (PIS) Workshop, 5th World Conference on Information Systems and Technologies 2017 (WorldCist 17)*, Porto Sando Island, Madeira, Portugal.

A.9.6. Session Chair in International Conferences

1. Session 43 'Reinforcement / Adversarial / Echo state (REI_ADV_ECH)', 23rd International Conference on Engineering Applications of Neural Networks (EANN), Crete, Greece (Hybrid), 17-20 June, 2022
2. Session: 'IUCC-5: Ubiquitous System, Services and Applications (III)', 19th International Conference on Ubiquitous Computing and Communications (IUCC-2020), 17-19 December 2020, Exeter UK
3. Session: 'IUCC-4: Ubiquitous System, Services and Applications (II)', 19th International Conference on Ubiquitous Computing and Communications (IUCC-2020), 17-19 December 2020, Exeter UK

4. Session: 'IUCC-1: Ubiquitous System, Services and Applications (I)', 19th International Conference on Ubiquitous Computing and Communications (IUCC-2020), 17-19 December 2020, Exeter UK
5. Session: 'ISPA-14: Multi-Access Edge Computing and Edge Networks', 18th IEEE International Symposium on Parallel and Distributed Processing with Applications (ISPA-2020), 17-19 December 2020, Exeter UK
6. Session: 'ISPA-13: Crowd Science and System Demo', 18th IEEE International Symposium on Parallel and Distributed Processing with Applications (ISPA-2020), 17-19 December 2020, Exeter UK
7. Session: 'ISPA-5: Accelerating Deep Neural Network', 18th IEEE International Symposium on Parallel and Distributed Processing with Applications (ISPA-2020), 17-19 December 2020, Exeter UK
8. Session: 'Applications of Deep Learning (g12)', 19th IEEE International Conference On Machine Learning And Applications (ICMLA), December 14-17, 2020, Miami, Florida.
9. Session: 'Edge and Fog computing', 19th IEEE International Symposium on Network Computing and Applications (NCA 2020), 24-27 November 2020, Online
10. Session: 'QoS, QoE, and Resource Management IV', 22nd IEEE Symposium on Computers and Communications, 03 - 06 July 2017, Heraklion, Crete, Greece

A.9.7. TPC Member

1. 21st IEEE International Symposium on Network Computing and Applications (NCA 2022)
2. 2022 International Conference on Innovations in Computing Research (ICR 22)
3. 11th International Conference on Data Management Technologies and Applications 2022 (DATA '22)
4. 20th IEEE International Symposium on Network Computing and Applications (NCA 2021)
5. Future Technologies Conference (FTC) 2021
6. 10th International Conference on Data Management Technologies and Applications 2021 (DATA '21)
7. 19th IEEE International Symposium on Network Computing and Applications (NCA 2020)
8. Future Technologies Conference (FTC) 2020
9. 9th International conference on Parallel, Distributed Computing and Applications (2020)
10. Computing Conference, 2020
11. International Computer Programming Education Conference, 2020
12. 9th International Conference on Data Management Technologies and Applications 2020 (DATA '20)
13. 7th European Conference on Social Media (ECSM 2019)
14. SAI Intelligent Systems Conference (IntelliSys), 2019
15. 8th International Conference on Data Management Technologies and Applications 2019 (DATA '19)
16. Computer Vision Conference, 2019
17. Computing Conference, 2019
18. Future of Information and Communication Conference (FICC), 2019
19. 7th International Conference on Data Management Technologies and Applications 2018 (DATA '18)

20. Future of Information and Communication Conference (FICC), 2018
21. 4th European Conference on Social Media, 2017
22. 6th International Conference on Data Management Technologies and Applications 2017 (DATA '17)
23. SAI Computing Conference 2017
24. Future Technologies Conference (FTC) 2016
25. 5th International Conference on Data Management Technologies and Applications 2016 (DATA '16)
26. SAI Intelligent Systems Conference (IntelliSys), 2016
27. Pervasive Information Systems Workshop, WorldCIST'16, 2016
28. 3rd European Conference on Social Media, 2016
29. International Conference on Health and Social Care Information Systems and Technologies, Healthy and Secure People (HSP) Workshop, 2015
30. SAI Intelligent Systems Conference (IntelliSys), 2015
31. 2nd International Conference on Analytics Driven Solutions (ICAS), 2015
32. Pervasive Information Systems Workshop, 3rd World Conference on Information Systems and Technologies (WorldCIST), 2015
33. 5th International Conference on Information Management and Evaluation (ICIME 2015)
34. 2nd European Conference on Social Media, 2015
35. 3rd ScienceOne International Conference on Information Technology, 2015
36. 1st International Conference on Analytics Driven Solutions (ICAS), 2014
37. 1st International Conference on Electrical Engineering and Application (MIC - Electrical) - Workshop on ICT as Convergence of Social Networking, Mobile, Clouds and Big Data (SMCD), 2014
38. International Conference on Automatic Control Theory and Application (ACTA 2014)
39. 1st International Conference on Telecommunication Systems and Networks, 2014
40. 7th International Conference on Communications, Networking and Information Technology - Mesh, Ad-Hoc and Sensor Networks Track, 2014
41. 4th International Conference on Information Management and Evaluation (ICIME 2013)

A.9.8. Peer Reviewer in International Journals (since 2013)

1. ACM Transactions on Internet Technology (TOIT)
2. Algorithms, MDPI
3. Applied Sciences, MDPI
4. Autonomous Robots, Springer
5. Elsevier Applied Soft Computing Journal (ASOC)
6. Elsevier, Computers and Electronics in Agriculture (COMPAG)
7. Elsevier, Computer Networks (COMNET)
8. Elsevier Expert Systems with Applications (ESWA)
9. Elsevier Information Sciences (INS)
10. Elsevier ICT Express
11. Elsevier Journal of Network and Computer Applications (JNCA)
12. Elsevier Journal of Parallel and Distributed Systems (JPDC)
13. Elsevier Knowledge Based Systems (KNOSYS)
14. Elsevier Machine Learning with Applications (MLWA)
15. Elsevier Pervasive and Mobile Computing (PMC)
16. Elsevier Swarm and Evolutionary Computation

17. Energies, MDPI
18. Entropy, MDPI
19. Future Internet, MDPI
20. IEEE Access
21. IEEE Communication Letters
22. IEEE Internet of Things Journal
23. IEEE Transactions on Industrial Informatics
24. IEEE Transactions on Mobile Computing
25. IEEE Transactions on Services Computing
26. IEEE Transactions on Systems, Man and Cybernetics – Part: Applications
27. IEEE Transactions on Systems, Man and Cybernetics – Part: Systems
28. IET Intelligent Transport Systems
29. IETE Technical Review
30. INFORMS Journal on Applied Analytics
31. International Journal of Advanced Robotic Systems
32. International Journal of Advances in Networks
33. International Journal of Applied Intelligence, Springer
34. International Journal of Computational Intelligence
35. International Journal of Computer Systems Science & Engineering
36. International Journal of Distributed Sensor Networks
37. International Journal of Electrical Power & Energy Systems
38. International Journal of Fuzzy System Applications (IJFSA), IGI Global
39. International Journal of Machine Learning and Cybernetics
40. International Journal of Physical Sciences
41. International Journal of Organization Theory & Behavior, Emerald Publishing
42. International Journal on Artificial Intelligence Tools
43. Journal of Internet Technology
44. Mathematics, MDPI
45. Mathematical and Computational Applications, MDPI
46. Open Automation and Control Systems Journal
47. Sensors (Open access Journal)
48. Springer Applied Intelligence (APIN)
49. Springer Evolving Systems
50. Springer Soft Computing
51. Transportation Letters

A.9.9. Reviewer in International Conferences

- Future Technologies Conference (FTC) 2021
- IEEE 2020 International Conference on Machine Learning and Applications
- Future Technologies Conference (FTC) 2020
- 9th International conference on Parallel, Distributed Computing and Applications (2020)
- AI Intelligent Systems Conference (IntelliSys), 2020
- 7th European Conference on Social Media (ECSM 2019)
- Computing Conference, 2020
- International Computer Programming Education Conference, 2020
- 9th International Conference on Data Management Technologies and Applications 2020 (DATA '20)

- Future of Information and Communication Conference (FICC), 2020
- AI Intelligent Systems Conference (IntelliSys), 2019
- 8th International Conference on Data Management Technologies and Applications 2019 (DATA '19)
- Computer Vision Conference, 2019
- Computing Conference, 2019
- Future of Information and Communication Conference (FICC), 2019
- 7th International Conference on Data Management Technologies and Applications 2018 (DATA '18)
- Future of Information and Communication Conference (FICC), 2018
- 4th European Conference on Social Media, 2017
- 6th International Conference on Data Management Technologies and Applications 2017 (DATA '17)
- SAI Computing Conference 2017
- SAI Computing 2016
- Future Technologies Conference (FTC) 2016
- SAI Intelligent Systems Conference (IntelliSys), 2016
- SAI Intelligent Systems Conference (IntelliSys), 2015
- IEEE International Conference on Automation Science and Engineering (IEEE CASE 2015)
- Pervasive Information Systems Workshop, 3rd World Conference on Information Systems and Technologies (WorldCIST), 2015
- European Conference on Social Media, 2014
- International Conference on Automatic Control Theory and Application (ACTA 2014)
- 7th International Conference on Communications, Networking and Information Technology, Mesh, Ad-Hoc and Sensor Networks Track, 2014
- 5th International Conference on Information Management and Evaluation (ICIME 2014)
- International Conference on Analytics Driven Solutions (ICAS), 2014
- 2nd International Conference on Communications and Electronic Systems (MIC-CES 2012)
- 1st International Conference on Digital Signal Processing (MIC-SigProc 2013)

A.10. PHD THESES SUPERVISOR

06/2022 - Today	Papathanasaki Maria, 'Data Aware Self-Healing Systems', Department of Informatics and Telecommunications, University of Thessaly
06/2022 - Today	Fountas Panagiotis, 'Optimized Data and Task Management in Internet of Things and Edge Computing', Department of Informatics and Telecommunications, University of Thessaly
03/2022 - Today	Albanis Georgios, 'AI-Based Synthesis for Complex Human Poses, Motions and Interactions', Department of Informatics and Telecommunications, University of Thessaly

- 01/2021 - Today Athanasios Moustakas, 'System and Data aware machine learning at scale', Department of Informatics and Telecommunications, University of Thessaly
- 10/2020 - Today George Boulougaris, 'Distributed Orchestration of Data and Services at the Internet of Things', Department of Informatics and Telecommunications, University of Thessaly

A.11. PARTICIPATION IN PHD THESES ADVISORY BOARD

- 10/2022 - Today Tsikrikonis Nikolaos, 'Conformal microstrip antenna with beam steering, implemented on an arbitrary irregular surface', Department of Electrical and Computer Engineering, University of Thessaly
- 10/2022 - Today Vagenas Anastasios Ioulios, 'Design and Optimization of VLSI circuits under IR-drop constraints', Department of Electrical and Computer Engineering, University of Thessaly
- 2/2022 - Today Alfahad, Saleh Abdullah M, 'Engineering Edge Computing with Predictive Intelligence', School of Computing Science, University of Glasgow
- 10/2021 - Today Wang Qiyuan, 'Resource-aware & Adaptive Novelty Detection in Edge Computing Environments', School of Computing Science, University of Glasgow
- 7/2021 - Today Axelou Olympia Kerasia, 'Analytical/numerical and machine learning methods in the analysis of aging and long-term reliability of integrated circuits', Department of Electrical and Computer Engineering, University of Thessaly
- 3/2021 - Today Stoikos Pavlos, 'Data-driven and Machine Learning Methods for Power and Signal Integrity Analysis in Three-dimensional Integrated Circuits', Department of Electrical and Computer Engineering, University of Thessaly
- 1/2021 - Today Long Qianyu, 'Distributed Statistical Learning over Data Streams at the Network Edge', School of Computing Science, University of Glasgow
- 10/2020 - Today Fatima H. M. Ghanduri, 'Deep Learning and Genetic Computing-driven Nowcasting of Credit Risk Management', School of Computing Science, University of Glasgow
- 10/2020 - Today Tahani Aladwani, 'Diagnosis of Diseases as Cloud Computing Service (DoDaaS)', School of Computing Science, University of Glasgow

7/2020 – Today Goutzini Nikolaos, 'Banking Sector Digital Transformation Optimization', Department of Electrical and Computer Engineering, University of Thessaly

A.12. EXAMINER OF PHD DISSERTATIONS

June 2022 Michail Chatzidakis, 'Mobile Ad-Hoc Networks (MANET) Trust management - Security Mechanisms', PhD Dissertation, Department of Informatics and Telecommunications, National and Kapodistrian University of Athens

April 2021 Konstantinos Papageorgiou, 'Exploration and Development of Methodologies for Systems Modeling and Decision Making Support Using Advanced Fuzzy Logic and Cognitive Maps Techniques', PhD Dissertation, Department of Informatics and Telecommunications, University of Thessaly

A.13. SUPERVISION OF THESES

A.13.1. Supervisor of B.Sc. Thesis

BSC24 Gesthimani Evaggelidou, 'Cyber Security Techniques at the Edge of the Network', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, July 2022.

BSC23 Dimitrios Bratsos, Georgios Fesatidis, 'Intelligent Dietary Scheduling and Suggestion Mechanism', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, July 2022.

BSC22 Dimitrios Papathanasiou, 'Smart Heterogeneity Management in the Internet of Things', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, July 2022.

BSC21 Nikolaos Grigoropoulos, 'Damage assessment in Buildings with the help of Deep Learning', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, July 2022.

BSC20 Aplakidis Pavlos, 'Path Planning and Crossroad Detection for Autonomous Driving using Multi-Task Learning', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, March 2022.

BSC19 Reppa Anna, 'Web Development of a Port Management System', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, March 2022.

BSC18 Diamantas Athanasios, 'Intelligent Career Advisor', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, March 2022.

BSC17 Sapakos Sotirios, 'GYM Management System Application', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, March 2022.

BSC16 Biletsiou Florina, 'Distributed Management of Personal Data', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, November 2021.

- BSC15 Gkikas Ilias, 'Cooperative Data Collection at the Internet of Things', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, November 2021.
- BSC14 Kaloritis Nikolaos, 'Development of an Augmented Reality System for Indoor Navigation Assistance', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, March 2021.
- BSC13 Zacharopoulos Athanasios, 'Development of Electronic Presentation Application Using Internet Technologies Through Android Systems', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, March 2021.
- BSC12 Makridis Konstantinos, 'Cooperative Scheme for Tasks Scheduling in Internet of Things', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, October 2020.
- BSC11 Matsoukas Achilles, 'Distributed Data Management in Internet of Things', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, October 2020.
- BSC10 Thanos Dimitrios, 'Advanced Secured Interfaces for Web Applications', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, October 2020.
- BSC09 Fountas Panagiotis, 'Intelligent Management of Distributed Data Streams in Real Time', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, February 2020.
- BSC08 Lefkaditis Christos, 'Autonomous Navigation with Machine Learning and Augmented Reality', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, February 2020.
- BSC07 Kalogianni Eleni, 'An Android Application for Recommending Products in the Touristic Domain', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, October 2019.
- BSC06 Karanika, A., Sula, M., 'An Intelligent, Data-Centric Scheme for Allocating Queries to Query Processors', *B. Sc. Thesis*, Department of Electrical and Computer Engineering, University of Thessaly, July 2019.
- BSC05 Katsarou, M., Politis, V., 'An Intelligent Scheme for Monitoring SLA in Cloud Computing Systems', *B. Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, October 2015. (Co-supervisor)
- BSC04 Trivizakis Dimitris, "Fuzzy Logic System Adaptation for Buyers Participating in Negotiations", *B.Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, July 2013. (Co-supervisor)
- BSC03 Maria Kalouda, "A Trust Definition System Based on Fuzzy Logic for Intelligent Agents Acting in E-Markeplaces", *B.Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, Jun. 2011. (Co-supervisor)
- BSC02 Roi Arapoglou, "Automatic Fuzzy Rules Generation for a Buyer Agent Acting in Electronic Markets", *B.Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, Oct. 2009. (Co-supervisor)
- BSC01 George Karasmanoglou, "An Ontology Mapping Algorithm for a Shopbot Participating in Electronic Markets", *B.Sc. Thesis*, Department of Informatics and

Telecommunications, University of Athens, Oct. 2009. (Co-supervisor)

A.13.2. Supervisor of M.Sc. Thesis

- MSC24 Efstathiadis Panagiotis, 'Modelling and Evaluation of Risks Analysis for Financial Decision Making', *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, May 2022.
- MSC23 Papathanasaki Maria, 'Modern Authentication Methods: A Comprehensive Survey', *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, March 2022.
- MSC22 Fountas Panagiotis, 'Query Driven Data Subspace Mapping', *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, March 2022.
- MSC21 Chasapis Athanasios, 'An Intelligent Distributed Task Allocation Scheme at the Edge of the Network', *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, June 2021.
- MSC20 Paraskevopoulou Efstathia, 'Data mining - Creating a model for predicting success or not in the subject of Mathematics', *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, January 2021.
- MSC19 Flouris Demetris, 'Distributed Task Management at the Edge of the Network', *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, November 2020
- MSC18 Konstantopoulos Konstantinos, 'A Data Mining Application for Frequent Patterns Detection in the Health Domain', *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, February 2020.
- MSC17 Matikas Athanasios, 'Comparative Evaluation of Sentiment Analysis Algorithms', *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, February 2020.
- MSC16 Kentela Lorena Maria, 'Resource Management in Cloud Computing', *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, June 2019. (Co-supervisor)
- MSC15 Defiggou Maria, 'Affective Computing in Internet of Things', *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Thessaly, April 2019.
- MSC14 Koukaras Theocharis, 'Automated Update of Synopses in Distributed data Repositories', *M.Sc. Thesis*, Department of Computer Science, University of Thessaly, February 2019.
- MSC13 Tsoukas Vassilios, 'Comparative Assessment of machine Learning Algorithms for the Definition of an Ensemble Learning Scheme', *M.Sc. Thesis*, Department of Computer Science, University of Thessaly, September 2018.
- MSC12 Milios Dimitrios, 'An Intelligent Scheme for Outliers Detection in Cloudlets', *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, July 2018. (Co-supervisor)
- MSC11 Liapatas Georgios, 'Implementation of a Recommendation System based on Spatio-temporal Data', *M.Sc. Thesis*, Department of Informatics and

- Telecommunications, University of Athens, November 2016. (Co-supervisor)
- MSC10 Tsiroukis Michail, 'A Graphical Interface for Implementing Mobile IoT Applications', *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, September 2016. (Co-supervisor)
- MSC09 Papadimitriou Harikleia, 'Group-Based Recommendations for Reconfigurable Items', *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, September 2016. (Co-supervisor)
- MSC08 Papadakis Emmanouil, 'An Effective Algorithm for top-k List Maintenance', *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, July 2014. (Co-supervisor)
- MSC07 Tsaklas Stefanos, 'A Recommender System Utilizing Social Network Information', *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, March 2014. (Co-supervisor)
- MSC06 Lika Blerina, "Solving the Cold Start Problem in Recommender Systems", *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, July 2013. (Co-supervisor)
- MSC05 Vanesa Lianeri and Ourania Stamou, "On the Use of Social Networks in Recommender Systems", *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, June 2013. (Co-supervisor)
- MSC04 Imeros Dimitris, "Dynamic Prices Calculation Based on Neural Networks", *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, July 2013. (Co-supervisor)
- MSC03 Kyriaki Panagidi, "On the Use of Optimization Techniques for Strategy Definition in Multi Issue Negotiations", *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, Nov. 2012. (Co-supervisor)
- MSC02 Marinela Marko, "Automatic Product Ontology Population Based on HTML Webpages", *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, Dec. 2011. (Co-supervisor)
- MSC01 George Boulougaris, "On the Use of Reinforcement Learning Techniques in Multiagent Systems ", *M.Sc. Thesis*, Department of Informatics and Telecommunications, University of Athens, Nov. 2008. (Co-supervisor)

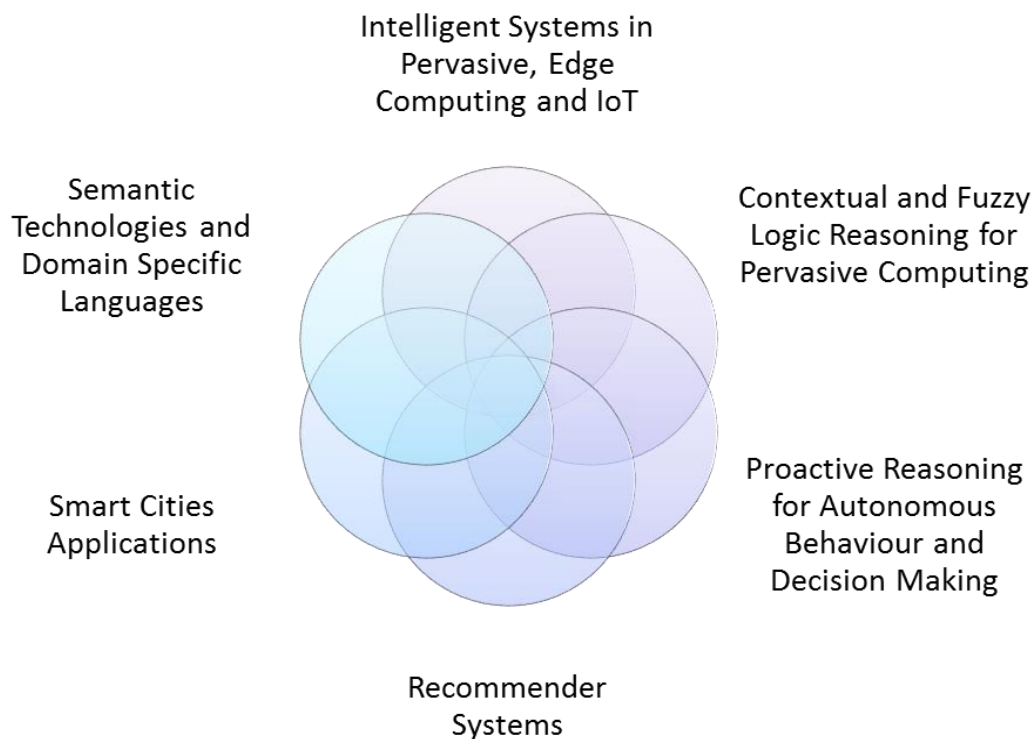
B. RESEARCH INTERESTS

My area of interest is *Intelligent Systems for Pervasive Computing* and in particular applications of *Computational Intelligence and Machine Learning* to create models, algorithms and systems to **proactively** respond to the requirements of various applications. My goal is to study the interaction of different entities and systems that aim to satisfy users' requirements but also to deliver efficient results. The techniques / algorithms / models I have suggested can provide the basis for solving problems encountered in multiple research areas. Recently, my work in the research areas of large-scale data management, Edge Computing and the Internet of Things (IoT) has been featured in high-level International Journals. These results are supported by theories such as:

- **Fuzzy Logic.** In my research effort I have created a set of fuzzy systems and controllers. In these systems I defined the rules of fuzzy logic and applied techniques to automatically extract these rules. This has led to the creation of a set of knowledge bases for multiple research areas (e.g., automated negotiations, sensor-derived data flow monitoring systems, etc.). In addition, I have contributed to the creation of adaptive fuzzy logic systems that are capable of being adapted to the environment in which they operate. The above activities are intended to manage decision-making and proactive inference under uncertainty as reflected by the requirements of the problem.
- **Swarm Intelligence and Optimization Techniques.** In my work, I have applied well-known techniques derived from swarm intelligence theory. These are Particle Swarm Optimization (PSO) and Artificial Bee Colony (ABC). These algorithms have been applied both to help optimize the behavior of autonomous entities involved in various systems. In addition, I have studied and applied well-known optimization theories such as the Simplex methodology and the Analytical Hierarchy Process (AHP). This activity aims to support the creation of Intelligent Systems to manage the behavior of various entities active in Pervasive Computing environments.
- **Machine Learning and Time Series Forecasting.** I have studied machine learning algorithms in automated interaction environments as well as models that extract the choice of optimal execution processors for queries defined by large scale data management applications. In addition, I have implemented and propose prediction algorithms based on linear or polynomial functions as well as Neural Networks for the proactive 'response' to situations that can be met in various problems. I have used the Kernel Density Estimator (KDE) method to extract the distribution of variables for which the distribution is unknown.
- **Fuzzy Logic.** In my research, I created a number of Fuzzy logic systems and Fuzzy controllers. I defined rule bases based on experts' knowledge and I applied techniques for the automatic extraction of fuzzy rule bases. Hence, the proposed systems are more efficient when used in real applications. Finally, I have created an adaptive Fuzzy system for updating the rule base and memberships function in real time.
- **Optimal Stopping Theory.** Optimal stopping theory is applied in cases where we want to identify the right time to take a specific decision. This decision is based on observations retrieved by the environment. Optimal stopping theory was applied in automated negotiations, in a group validation scheme (distributed systems domain) and in a recommender system.

- **Game Theory.** In my research, I adopted game theory for modelling the bilateral negotiation of entities assuming incomplete knowledge on both sides.
- **Domain Specific Languages.** Through my participation in research projects, I had the opportunity to study and develop a Domain Specific Language adopting widely known frameworks (Eclipse XText). In this effort, I participated in the design and implementation of the language and I developed a debugger for the discussed Domain Specific Language.
- **Semantic Web.** In my research, semantic web technologies (e.g., ontologies) were used in the distributed systems domain. I developed ontologies and methodologies for the representation of spatial characteristics in indoor location based services applications.

Going into a categorization of my research efforts, the following figure and the following table show in detail the aforementioned categories of publications as well as the research efforts that 'belong' to each of them:



Domain	Publications
Intelligent Systems in Pervasive Computing, Edge Computing and IoT I suggest the use of various Machine Learning and Computational Intelligence algorithms to support the creation of Intelligent Systems for Pervasive Computing applications.	J61, J60, J58, J57, J55, J54, J52, J51, J49, J48, J47, J46, J45, J44, J43, J42, J41, J40, J39, J38, J36, J35, J34, J33, J32, J31, J27, J25, J21, J15, J13 C59, C57, C56, C55, C54, C53, C45, C44, C41, C39, C37, C36, C35, C33, C32, C30, C28, C25,

	C23, C22, C21, C20, C19, C18, C17, C14
	P01
	BC13, BC12, BC11, BC10
Contextual and Fuzzy Logic Reasoning for Pervasive Computing	J30, J26, J22, J20, J19, J18, J17, J14, J11, J09, J02, J01
Models, algorithms, systems are proposed to support the proactive inference under uncertainty based on contextual information as extracted by data collected from the environment.	C38, C13, C12, C11, C07, C05, C04, C03 BC05
Proactive Reasoning for Autonomous Behaviour and Decision Making	J59, J56, J53, J50, J37, J24, J23, J12, J08, J07, J05, J04
Proactive inference schemes are proposed to support the autonomous behavior of different entities in a variety of research fields. The objective is to provide the necessary 'response' mechanism to these entities so that they are able to make correct and efficient decisions according to the requirements of the applications they serve.	C58, C52, C51, C50, C49, C48, C47, C46, C43, C42, C40, C34, C31, C29, C26, C24, C16, C15, C10, C09, C08, C02 BC04, BC03
Recommender Systems	J10, J06
It is suggested to adopt stochastic inference, Machine Learning and Computational Intelligence algorithms to create recommendation systems.	BC08
Smart Cities Applications	J29, J28, J16
Various data management schemes in Smart Cities are proposed and the extraction of information and decisions for the efficient support of Intelligent Systems.	
Semantic Technologies and Domain Specific Languages	J03 C06, C01
It is suggested to adopt the principles and techniques of the Semantic Web as well as various ontologies for multiple research fields.	BC07, BC06, BC02, BC01 TR02, TR01