

Curriculum Vitae

PERSONAL INFORMATION

Family Name/First Name: Santipantakis Giorgos
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Scopus ID: 55234658800
Google Scholar: <https://scholar.google.com/citations?user=VS7pXr0AAAAJ&hl=en>
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STUDIES

- 2014-** : Postdoctoral, University of Piraeus, Digital Systems Department
- 2009-2014** : Ph.D. in Computer Science (Knowledge Representation and Reasoning), Department of Information & Communication Systems Engineering, Aegean University,
Advisors: G.A. Vouros, E. Stamatatos, T. Sellis
Research: Semantic Peer-to-Peer Systems
Available online: <https://thesis.ekt.gr/thesisBookReader/id/34646#page/1/mode/2up>
- 2007-2009** : M.Sc. in Information Management, Department of Information & Communication Systems Engineering, Aegean University.
Advisor: G.A. Vouros
Thesis: "Telex supported Collaborative Ontology Engineering (TCOE)". The framework for collaborative ontology development, Telex INRIA(Paris) has been used, combined with validity rules. This software exploits the semantics of the actions performed by the collaborative members, checks the consistency of the actions applied, based on a set of constraints being specified, and proposes sequences of actions (schedules), which if executed would update the under revision object consistently. Available online: <https://hellanicus.lib.aegean.gr/handle/11610/12657>
- 2005-2006** : Attended an academic year of preparatory courses to MSc, successfully completed the following courses: "Discrete Mathematics I", "Discrete Mathematics II", "Algorithms and Data Structures I", "Algorithms and Data Structures II", "Databases", "Database Design", "Artificial Intelligence", "Software Engineering", "Distributed Systems", "Information Retrieval"
- 1997-2003** : Degree in Electrical Engineering, (minor Computer Science), Technological Educational Institute (T.E.I.) of Crete.
Thesis: "Transformation of Logic Programs". In this project, transformation techniques such as "Folding", "Unfolding" and "New Definition" were studied, and logic algorithms such as "Unification" and "Substitution Application" were implemented. "Ground" and "Non-Ground Representation" was also applied.
- 1998-1999** : Erasmus student during the winter semester of the academic year 1998-99, successfully completed the courses "System Development Fundamentals" and "Computer Networks" at Leeds Metropolitan University.

SCHOLARSHIPS - AWARDS

- 2014** : Best Paper Award, SETN 2014

- 2009-2013** : IRAKLITOS II PhD Scholarship from the Greek General Secretariat for Research and Technology
- 2008** : Honours Scholarship from Aegean University for the performance in MSc courses during the academic year 2007-2008.
- 1998** : Scholarship from State Scholarships Foundation (IKY) under Socrates/Erasmus program for the winter semester of academic year 1998-1999

PROFESSIONAL EXPERIENCE

- 2024-2025** : Teaching for the course “Programming” module code “PLIPRO”, Computer Science (PLI) School of Science and Technology, Hellenic Open University.
- 2024-2025** : Teaching for the course «Knowledge Technologies», postgraduate programme «Data Science & Information Technologies», Department of Informatics & Telecommunications of the National & Kapodistrian University of Athens (NKUA).
- 2021-2022** : Teaching for the course “Programming” module code “PLIPRO”, Computer Science (PLI) School of Science and Technology, Hellenic Open University.
- 2020-2021** : Supervisor of MSc students of the postgraduate programme “e-Learning” (C.004), University of Piraeus
- 2019** : Autonomous teaching for the course “Web Technologies” of postgraduate programme “e-Learning” (C.004), University of Piraeus
- 2019** : Autonomous teaching for the course “Introduction to Health Informatics” Inter-University postgraduate programme “Health Care Management – Health Informatics”, National and Kapodistrian University of Athens
- 2016-2018** : Co-Instructor for the course “Introduction to Health Informatics” Inter-University postgraduate programme “Health Care Management – Health Informatics”, National and Kapodistrian University of Athens
- 2018** : Co-Instructor for the course “Web Technologies” of postgraduate programme “e-Learning” (C.003), University of Piraeus
- 2014-** : Postdoctoral Researcher, University of Piraeus, Digital Systems Department
- 2012** : Co-Instructor for the course “Introduction to Health Informatics” Inter-University postgraduate programme “Health Care Management – Health Informatics”, National and Kapodistrian University of Athens
- 2010-2011** : Co-Instructor for the course “Introduction to Informatics I”, Accounting department, School of Management & Economics, T.E.I. of Crete
- 2010-2011** : Co-Instructor for the course “Introduction to Data Management”, Business Administration Department, School of Management & Economics, T.E.I. of Crete
- 2001-2002** : Practical training in the software house “Datacreta”, Heraklion, Crete.
- 2000-2001** : Administrator of Electrical Engineering IT laboratory of TEI of Crete.

RESEARCH – DEVELOPMENT ACTIVITIES

- 2024-** : Increasing Users’ Long Term Utility in Using a Gaming Platform through Recommendation and Modelling of Users Policies (INUUSE)
- 2024-** : Συμμετοχή στο ερευνητικό έργο με τίτλο «EMERALDS -- Extreme-scale Urban Mobility Data Analytics as a Service» (Grant Agreement 101093051), Horizon
- 2023-** : Participation to the research program «New data spaces for green mobility (MobiSpaces)», Horizon2021

- 2023-** : Participation to the research program «Energy-efficient AI-ready Data Spaces (Green.DAT.AI)», Horizon2021
- 2021-2023** : Participation to the research program «Enabling Maritime Digitalization by Extreme-scale Analytics, AI and Digital Twins (VesselAI) », Horizon2020
- 2021-2022** : Participation to the research program «Combining Simulation Models and Big Data Analytics for ATM Performance Analysis – SIMBAD», Horizon2020
- 2020-2022** : Participation to the research program «Towards an Automated and exPlainable ATM System - TAPAS», Horizon2020
- 2020-2022** : Participation to the ELIDEK research program «Semantic Spatio-textual Data Analysis and Processing, Chorologos»
- 2019-2020** : Participation to the research program «DATAcron 2018», for the management of data related to trajectories of flying objects, analysis, processing and integration of data sources towards trajectory enrichment with data related to the movement of the objects.
- 2019** : Participation to the Horizon 2020 research program «CYBELE - Fostering Precision Agriculture And Livestock Farming Through Secure Access To Large-Scale Hpc-Enabled Virtual Industrial Experimentation Environment Empowering Scalable Big Data Analytics», Horizon2020.
- 2016-2018** : Participation to the Horizon 2020 research program «datAcron: Big Data Analytics for Time Critical Mobility Forecasting».
- 2015** : Participation to the development of a data migration tool to CERIF database from heterogeneous data sources.
- 2014-2015** : Implementation of an Ontology Based Data Access (OBDA) system for data integration of heterogeneous data sources and reasoning for maritime event recognition.
- 2014** : Implementation of an ontology modularization tool towards E-SHIQ distributed knowledge bases.
- 2009-2014** : Design of the E-SHIQ formalism and implementation of the distributed peer-to-peer reasoner in the SHIQ fragment of Description Logics.
- 2012** : Developed the web site for the Greek translation of the book “Semantic Web for the Working Ontologist: Effective Modeling in RDFS and OWL, Dean Allemang, James Hendler”. Translated by G. Vouros, K. Kotis (<http://ai-group.ds.unipi.gr/working-ontologist/>)
- 2011** : Developed the web portal of Artificial Intelligence group of the department of Digital Systems, University of Piraeus (<http://ai-group.ds.unipi.gr/ai-group/>)
- 2010** : Developed the web portal of the Hellenic Artificial Intelligence Society (EETN).
- 2009** : Development of “Tourism ontology” as partial requirement of the project “Development and deployment of applications for e-participation in Samos municipality” by IMC AEGEAN A.E.
- 2009** : Development of AI-Lab web portal using web technologies providing semantic capabilities of ontology-based annotated content.
- 2005-2006** : Participation in “Archimedes II” research program for the “Development of Database and Operations Simulation of Cretan Electric Power System”. Research director: Dr. Thales M. Papazoglou – Professor of T.E.I. of Crete
- 2003-2005** : Participation in INNOPSE research program. Subject of research: “Tele-management of distributed Flexible Electric Loads in the Liberalized Electricity Market”. Research director: Dr. Thales M. Papazoglou – Professor of T.E.I. of Crete

- 2004** : Member of the Local Organizing Committee of Workshop “ELECTRICITY TELE-MANAGEMENT SERVICES” of the Research Program INNOPSE, TEI of Crete, Heraklion, April 23, 2004.
- 2004** : Development of application for the Cretan Wind Farms’ Electric Power Capacity forecast, under the research program INNOPSE (GEA BASE).
- 2004** : Development of SCADA software tele-monitoring and tele-control of underground water pumping stations (Pump Monitoring).

PUBLICATIONS

1. Vouros, G.; Ioannidis, I.; Santipantakis, G.; Tranos, T.; Blekas, K.; Melgosa, M.; Prats, X. Machine-Learning Methods Estimating Flights’ Hidden Parameters for the Prediction of KPIs. *Aerospace* 2024, 11, 937. 2024.
2. Alevizos, Elias, Georgios M. Santipantakis, Christos Doulkeridis and A. Artikis, Online Integration of Spatial Reasoning in Complex Event Recognition, *EDBT/ICDT Workshops*, 2024.
3. Georgios Santipantakis, Christos Doulkeridis, George A. Vouros, An ontology for Representing and Querying Semantic Trajectories in the Maritime Domain, *ADBIS*, 2023.
4. Georgios Santipantakis, Christos Doulkeridis, An RDF Benchmark for Enriched Maritime Data, *EMODE@SIGSPATIAL 2023:1-10*, 2023.
5. Christos Doulkeridis, Georgios M. Santipantakis, Nikolaos Koutroumanis, George Makridis, Vasilis Koukos, George S. Theodoropoulos, Yannis Theodoridis, Dimosthenis Kyriazis, Pavlos Kranas, Diego Burgos, Ricardo Jiménez-Peris, Mariana M. G. Duarte, Mahmoud Attia Sakr, Esteban Zimányi, Anita Graser, Clemens Heistracher, Kristian Torp, Ioannis Chrysakis, Theofanis Orphanoudakis, Evgenia Kapassa, Marios Touloupou, Jürgen Neises, Petros Petrou, Sophia Karagiorgou, Rosario Catelli, Domenico Messina, Marcelo Corrales Compagnucci, Matteo Falsetta: *MobiSpaces, An Architecture for Energy-Efficient Data Spaces for Mobility Data. IEEE Big Data 2023: 1487-1494*, 2023.
6. Theocharis Kravaris, Konstantinos Lentzos, Georgios Santipantakis, George A. Vouros, Gennady L. Andrienko, Natalia V. Andrienko, Ian Crook, Jose Manuel Cordero Garcia, Enrique Iglesias Martinez, Explaining deep reinforcement learning decisions in complex multiagent settings: towards enabling automation in air traffic flow management. *Appl. Intell.* 53(4): 4063-4098, 2023.
7. Georgios Santipantakis, Konstantinos I. Kotis, Apostolos Glenis, George A. Vouros, Christos Doulkeridis, Akrivi Vlachou, “RDF-Gen: Generating RDF Triples from Big Data Sources”, *Knowledge and Information Systems*, 64(11):2985-3015, 2022.
8. George A. Vouros Theodore Tranos, Konstantinos Blekas Georgios Santipantakis Marc Melgosa Xavier Prats, Data-driven estimation of flights’ hidden parameters, In proceedings *SESAR Innovation Days 2022*, 2022.
9. G. Santipantakis, G.A. Vouros, C. Doulkeridis, "Coronis: Towards Integrated and Open COVID-19 Data", *EDBT'21 (demo session)*, 2021.
10. N. Koutroumanis, G. M. Santipantakis, A. Glenis, C. Doulkeridis, G. A. Vouros, "Scalable enrichment of mobility data with weather information", *Geoinformatica* (2020). <https://doi.org/10.1007/s10707-020-00423-w>
11. Georgios M.Santipantakis, Apostolos Glenis, Kostas Patroumpas, Akrivi Vlachou, Christos Doulkeridis, George A.Vouros, Nikos Pelekis, Yannis Theodoridis, "SPARTAN: Semantic integration of big spatio-temporal data from streaming and archival sources", *Future Generation Computer Systems*, vol. 110, Pages 540-555, 2020
12. C. Vassilakis, K. Kotis, D. Spiliotopoulos, D. Margaritis, V. Kasapakis, C. Anagnostopoulos, G. Santipantakis, G. Vouros, T. Kotsilieris, V. Petukhova, A. Malchanau, I. Lykourantzou, K. Helin, A.

- Revenko, N. Gligoric, B. Pokric, "A Semantic Mixed Reality Framework for Shared Cultural Experiences Ecosystems". *Big Data Cogn. Comput.* 2020, 4, 6. <https://doi.org/10.3390/bdcc4020006>
13. Georgios M. Santipantakis, Apostolos Glenis, Christos Doukeridis, Akrivi Vlachou, and George A. Vouros, «stLD: towards a spatio-temporal link discovery framework», *Proceedings of the International Workshop on Semantic Big Data (SBD '19)*, (2019).
 14. Petros Petrou, Panagiotis Nikitopoulos, Panagiotis Tampakis, Apostolos Glenis, Nikolaos Koutroumanis, Georgios M. Santipantakis, Kostas Patroumpas, Akrivi Vlachou, Harris Georgiou, Eva Chondrodima, Christos Doukeridis, Nikos Pelekis, Gennady L. Andrienko, Fabian Patterson, Georg Fuchs, Yannis Theodoridis, George A. Vouros, «ARGO: A Big Data Framework for Online Trajectory Prediction», *SSTD'19: International Symposium on Spatial and Temporal Databases*, (2019).
 15. Nikolaos Koutroumanis, Georgios Santipantakis, Apostolos Glenis, Christos Doukeridis, George A. Vouros, «Integration of Mobility Data with Weather Information», *Big Mobility Data Analytics Workshop (BMDA)*, (2019).
 16. Akrivi Vlachou, Christos Doukeridis, A. Glenis, Georgios Santipantakis, George A. Vouros, «Efficient Spatio-temporal RDF Query Processing in Large Dynamic Knowledge Bases», *34th ACM/SIGAPP Symposium On Applied Computing*, (2019).
 17. G.A. Vouros, G.M. Santipantakis, C. Doukeridis, A. Vlachou, G. Andrienko, N. Andrienko, G. Fuchs, J.M. Cordero Garcia, M.G. Martinez, "The datAcron Ontology for the Specification of Semantic Trajectories", *Journal on Data Semantics*, vol. 8, 235–262 (2019). <https://doi.org/10.1007/s13740-019-00108-0>
 18. Giorgos Santipantakis, al. et. «FAIMUSS: Flexible Data Transformation to RDF from Multiple Streaming Sources», *EDBT'18*, pp. 662-665, 2018
 19. George Vouros, Akrivi Vlachou, Giorgos Santipantakis, Christos Doukeridis, Nikos Pelekis, Harris Georgiou, Yannis Theodoridis, Kostas Patroumpas, Elias Alevizos, Alexander Artikis, Christophe Claramunt, Cyril Ray, David Scarlatti, Georg Fuchs, Gennady Andrienko, Natalia Andrienko, Michael Mock, Elena Camossi, Anne-Laure Jousset, Jose Manuel Cordero Garcia, *Big Data Analytics for Time Critical Mobility Forecasting: Recent Progress and Research Challenges*, *EDBT'18*, pp. 612-623, 2018
 20. Giorgos Santipantakis, Christos Doukeridis, George A. Vouros, A. Vlachou, «MaskLink: Efficient Link Discovery for Spatial Relations via Masking Areas», *arxiv*, 2018, <https://doi.org/10.48550/arXiv.1803.01135>
 21. Giorgos Santipantakis, Christos Doukeridis, K. Kotis, George A. Vouros, «RDF-Gen: Generating RDF from streaming and archival data», *WIMS 2018*.
 22. George A. Vouros, I. Κοντόπουλος, Giorgos Santipantakis, Akrivi Vlachou, Christos Doukeridis, A. Artikis, «A Stream Reasoning System for Maritime Monitoring», *TIME 2018*.
 23. George A. Vouros, Christos Doukeridis, Giorgos Santipantakis, Akrivi Vlachou, «Taming big maritime data to support analytics», *Information Fusion and Intelligent Geographic Information Systems*, (2018).
 24. Giorgos Santipantakis, George A. Vouros, A. Glenis, Christos Doukeridis, A. Vlachou, «The datAcron Ontology for Semantic Trajectories», *ESWC 2017*.
 25. A. Vlachou, Giorgos Santipantakis, George A. Vouros, A. Glenis, Christos Doukeridis, «Generating linked RDF data from heterogeneous streaming and archival data sources: Populating the datAcron ontology», *Semantics 2017*.

26. Giorgos Santipantakis, K. Kotis, George A. Vouros, «OBDAIR: Ontology-Based Distributed Framework for Accessing, Integrating and Reasoning with Data in Disparate Data Sources», Expert Systems With Applications, (2017).
27. Giorgos Santipantakis, George A. Vouros, Christos Doukeridis, A. Vlachou, G. Andrienko, N. Andrienko, J.Manuel Cordero, M.Garcia Martinez, «Specification of Semantic Trajectories and Data Transformations for Analytics: The datAcron Ontology», Semantics 2017.
28. Giorgos Santipantakis, K. Kotis, George A. Vouros, «Accessing and Reasoning with Data from Disparate Data Sources Using Modular Ontologies and OBDA», SEMANTiCS 2015.
29. Giorgos Santipantakis, George A. Vouros, «Decomposing Ontologies for the Construction of Distributed Knowledge Bases: The mONTul method», IJAIT. 24(5), (2015).
30. Giorgos Santipantakis, K. Kotis, George A. Vouros, «Ontology-Based Data Integration for Event Recognition in the Maritime Domain», WIMS 2015.
31. Giorgos Santipantakis, K. Kotis, George A. Vouros, «Ontology-based Data Sources' Integration for Maritime Event Recognition», Workshop on Modeling, Computing and Data Handling for Marine Transportation (MCDMT 2015), IISA 2015.
32. Giorgos Santipantakis, George A. Vouros, «Distributed Reasoning with Coupled Ontologies: The E-SHIQ Representation Framework», Journal of Knowledge and Information Systems (KAIS), Vol.41, No.3, (December 2014).
33. Giorgos Santipantakis, George A. Vouros, «Modularizing Ontologies for the Construction of E-SHIQ Distributed Knowledge Bases», 8th Hellenic Conference on AI SETN 2014, LNCS, Vol. 8445, pp. 192-206, (2014).
34. Santipantakis Georgios, Vouros George A, «Constructing E-SHIQ Distributed Knowledge Bases via Ontology Modularization: The mONTul method» Conference, WoMO 2014, 2014
35. George A. Vouros, Giorgos Santipantakis, «Combining Ontologies with Correspondences and Link Relations: The E-SHIQ Representation Framework» CoRR abs/1310.2493, (2013).
36. Giorgos Santipantakis, George A. Vouros, «Combining multiple ontology units using the E-SHIQ representation framework» 1st International Conference on Agreement Technologies, Dubrovnik, Croatia (2012).
37. Giorgos Santipantakis, George A. Vouros, «Modularizing owl ontologies using E-SHIQ». 24th IEEE International Conference on Tools with Artificial Intelligence, Athens, Greece (2012).
38. George A. Vouros, Giorgos Santipantakis, «Distributed reasoning with E-SHIQ». Modular Ontologies: Proc. of the 6th International Workshop (WoMo 2012), (July 2012).
39. Giorgos Santipantakis, George A. Vouros, «Distributed Instance Retrieval in $E^{\{DDL\}}\{HQ^+\}$ SHIQ Representation Framework». Artificial Intelligence: Theories and Applications. Vol. 7297, pp.141-148, (2012).
40. Giorgos Santipantakis, George A. Vouros, «Semantics Based Reconciliation for Collaborative Ontology Evolution», Proceedings of Knowledge Engineering and Ontology Development Conf. (KEOD), Madeira, Portugal, (2009).
41. J. Sillignakis, G. Santipantakis, S. Michos, "Benefits of Adaptation of GIS for the Power System of Crete", Proceedings of DEMSEE '06, Heraklion Crete, (2006)
42. T. M. Papazoglou, G. Santipantakis, J. Sillignakis, M. Papazoglou, "Wind Generation and Flexible Electric Load Management Issues for the System Operation in Crete", International Congress A.N.I.P.L.A.: Methodologies for Emerging Technologies in Automation, Rome, (2006)

43. T. M. Papazoglou, G. Santipantakis, M. Papazoglou, "Wind Generation and Flexible Electric Load Management Issues for the System Operation in Crete", Proceedings of the 40th UPEC, Vol. 1, pp. 334-349, (2005)
44. T. M. Papazoglou, G. Santipantakis, "Wind Generation and Flexible Electric Load Management Issues for the System Operation in Crete", CIGRE Symposium, paper #200, Athens, April 14, (2005)
45. T. M. Papazoglou, G. Santipantakis, "Flexible Electric Load (FEL) Management Service", Proceedings of the 39th UPEC, Bristol, September (2004)

BOOK CHAPTERS

1. Georgios M. Santipantakis, Christos Doukeridis, George A. Vouros, "Link Discovery for Maritime Monitoring", Guide to Maritime Informatics, 2021, Springer International Publishing, ISBN:978-3-030-61852-0, https://doi.org/10.1007/978-3-030-61852-0_7
2. Georgios M. Santipantakis, George A. Vouros, Akrivi Vlachou & Christos Doukeridis, "Modeling Mobility Data and Constructing Large Knowledge Graphs to Support Analytics: The datAcron Ontology", Big Data Analytics for Time-Critical Mobility Forecasting, 2020, Springer International Publishing, ISBN:978-3-030-45163-9, <https://doi.org/10.1007/978-3-030-45164-6>

BOOKS

1. Translated Greek version of "Semantic Web for the Working Ontologist: Effective Modeling in RDFS and OWL", Dean Allemang, James Hendler, by G.A. Vouros, K. Kotis, G. Santipantakis. Online resources at <http://ai-group.ds.unipi.gr/working-ontologist/>, Publication Date: May 9, 2008 | ISBN-10: 0123735564 | ISBN-13: 978-0123735560 | Edition: (<http://workingontologist.org/>)

TECHNICAL SKILLS

Operating Systems	: UNIX, Linux, Windows (NT/2000, XP, Vista, 7), DOS
Programming Languages	: Java, Visual Basic / .NET, C++, Prolog, Pascal
Web Development	: PHP, HTML, Drupal (CMS)
Scripting/Query Languages	: Latex, BASH
Markup/Query Lang.	: XML, RDF/S, OWL, SPARQL
Databases	: Oracle, MySQL, PostGIS, OWLIM (NoSQL)
Big Data	: Apache Flink, Apache SPARK
Other	: MS Office, Gimp, e.t.c.

SPOKEN LANGUAGES

Greek, English (TOEFL, score 243, Aug. 05, 2004)