

CURRICULUM VITAE

IOANNIS I. KONSTANTINOU

Electrical and Computer Engineer, NTUA

PhD, School of Electrical and Computer Engineering, NTUA

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CURRICULUM VITAE

1. Contact Information

Surname: Konstantinou
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Place of Birth: Lamia
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2. Education

- Spercheiada High School (1998) Grade 19.1/20 (Excellent).
- Diploma in Electrical and Computer Engineer, National Technical University of Athens. (2004) Grade 7.33/10 (Very Good). Diploma Thesis Title: «*Creation, Editing and Production of Printable Undergraduate Handbook Using Static and Dynamic Content* » (Prof. N. Mitrou).
- Master in Techno-Economic Systems (MBA), School of ECE, NTUA 2007 Grade 8.26/10 (Very Good). Diploma Thesis Title: «*Data Grid: Integrating Heterogeneous and Distant Data Stores*» (Prof. N. Koziris)
- PhD in Distributed Data Management Systems, School of ECE, NTUA (June 2011). Thesis Title: «*Adaptive Load Balancing Algorithms for Distributed Data Management Systems (Peer to Peer and Cloud Computing)*» (Advisor. Prof. P. Tsanakas).

3. Foreign Languages

- *English:* Certificate of Proficiency in English (Cambridge University, 2002)
- *French:* DELF - Diplôme d'études en langue française (1995)

4. Teaching Experience

Associate Professor, Department of Informatics and Telecommunications, University of Thessaly.

- Associate Professorship Appointment (tenured) Official Government Gazette 2835/τ.Γ'/13.09.2024

- Assistant Professorship Appointment (tenured) Official Government Gazette 3100/τ.Γ'/27.11.2023
- Assistant Professorship Appointment (tenure track) Official Government Gazette 924/τ.Γ'/18.06.2020

Lessons:

- Operating Systems Fall 2020, 2021, 2022, 2023, 2024
- Programming III, Fall 2020, 2021, 2022, 2023, 2024
- Cloud Computing Spring 2021, 2022, 2023, 2023,2024,2025
- Big Data Management Systems Spring 2021, 2022, 2023, 2024,2025
- Msc, Informatics and Telecommunications, C Programming, Sping 2022

Assistant Professor, Department of Informatics, Athens University of Economics and Business, MSc: Data Science

Lessons

Introduction to Data Management and Engineering Fall 2020, 2021, Spring 2021
Large Scale Data Management, Spring 2022, 2023

Lecturer (ΠΔ 407/80), Department of Informatics, Athens University of Economics and Business. Lessons:

- Operating Systems Spring 2017
- Distributed Systems Spring 2020, Spring 2021, Spring 2022

Visiting Assistant Professor (Postdoctoral scholar), School of Electrical and Computer Engineering, NTUA Lessons:

- Advanced Topics in Database Systems Fall 2016, Fall 2017, Fall 2018, Fall 2019
- Msc in Data Science and Machine Learning. Lesson: “Large Scale Data Management”, Spring 2019, Spring 2020

Lecturer (ΠΔ 407/80), Department of Computer Science, University of Thessaly. Lessons:

- Cloud Computing, Spring 2020
- Big Data Management Systems, Spring 2020
- Operating Systems, Fall 2016, Fall 2017, Fall 2018, Fall 2019
- Introduction to Programming, Fall 2016, Fall 2017, Fall 2018
- Data Mining, Fall 2016
- Object Oriented Programming, Spring 2017, Spring 2018
- Internet and Concurrent Programming, Spring 2017, Spring 2018, Spring 2019
- Programming III, Fall 2019

Visiting Assistant Professor (ΠΔ 407/80), Department of Computer Engineering and Informatics, University of Patras. Lessons:

- Operating Systems II (Cloud Computing, MapReduce, NoSQL), Spring 2012
- Operating Systems I, Fall 2012
- Operating Systems II (Cloud Computing, MapReduce, NoSQL), Spring 2013

Visiting Postdoctoral Researcher, Department of Computer Engineering and Informatics, University of Patras. Lessons:

- Operating Systems I Fall 2013

Postdoctoral Researcher, School of ECE, NTUA:

- Advanced Topics in Database Systems, Fall 2013
- Advanced Topics in Database Systems, Fall 2014

Laboratory Assistant, School of ECE, NTUA:

- Operating Systems (08-09)
- Operating Systems (09-10)
- Operating Systems (10-11)

5. Professional Experience

Department of Computer Science and Telecommunications, University of Thessaly (6/2020-today)

ASSOCIATE PROFESSOR

- Associate Professorship Appointment (tenured) Official Government Gazette 2835/τ.Γ'/13.09.2024
- Assistant Professorship Appointment (tenured) Official Government Gazette 3100/τ.Γ'/27.11.2023
- Assistant Professorship Appointment (tenure track) Official Government Gazette 924/τ.Γ'/18.06.2020

Expertise: «*Distributed Computing Systems with Emphasis on Cloud Computing*»

Lab Director «*Video Technology and Cloud Computing Laboratory*»

Participation in the following committees:

- University of Thessaly Digital Governance Committee

Computing Systems Laboratory, School of ECE, NTUA

(07/2011-present)

SENIOR RESEARCHER.

Research Interests: Distributed Computing Systems Architectures, Big Data Management Systems, Cloud Computing, Peer to Peer Systems and Grid Computing.

- Research proposal writing for EU and GR funded Research Programs (FP7, Horizon 2020 and GSRT). Total budget of successful proposals for which he participated or coordinated their submission: **+24M Euro**. (BigOptiBase, E2Data, SELIS, CELAR, MoDiSSENSE). Team Funding: **1,4M Euro**.

- Mentoring of 22+ undergraduate diploma theses.

Funded Research Projects:

OASA Analytics: Εξαγωγή Δεικτών Απόδοσης του Συγκοινωνιακού Έργου της ΟΑΣΑ Α.Ε. και της Στάθμης Εξυπηρέτησης Επιβατών στις Αστικές Συγκοινωνίες Αθηνών με Χρήση Προηγμένων

Τεχνικών Αναλυτικής Επεξεργασίας Δεδομένων (Προγραμματική Σύμβαση ΑΔΑ:
ΨΨΡΧ46ΨΧΕ3-Ε2Η)

- **ZEROW:** Systemic Innovations Towards a Zero Food Waste Supply Chain. (GA 101036388, IA, H2020-LC-GD-2020-4)
- **PUZZLE:** Towards a Sophisticated SIEM Marketplace for Blockchain-based Threat Intelligence and Security-as-a-Service (GA 883540, IA, H2020-SU-DS-2019) WP4 Lead
- **DataSource:** A Search, Visualization and Processing Platform for Big Open Data. T2EAK-01231. Technical Coordinator
- **IW-NET:** Innovation driven Collaborative European Inland Waterways Transport Network. Responsible for the Big Data platform (H2020 MG-2-6-2019) (kick-off expected June 2020)
- **eThemisID:** Integrating the Greek Justice System with eIDAS and e-signature services CEF/ICT/A2019/1926069 (CEF-Connecting Europe Facility) Technical Coordinator.
- **BigOptiBase:** Base Station Energy Optimization with Big Data Analytics T1EAK-04605. Technical Coordinator
- **E2Data** European Extreme Performing Big Data Stacks (Horizon 2020, H2020-ICT-2017-1 # 780245)
- **SELIS** Towards a Shared European Logistics Intelligent Information Space (Horizon 2020, MG-6.3-2015) Technical Coordinator, Big Data and Cloud systems (Work Package 4).
- **MoDiSENSE:** A Distributed Platform for the Development of Social Networking Services over Mobile Devices (GSRT: 09ΣΥΝ-72_881) Technical Coordinator.
- **CELAR:** Automatic, multi-grained elasticity-provisioning for the Cloud, 7th Framework Programme, FP7-ICT-2011-8 #317790. Participation in the technical coordination.
- **CLARIN-EL:** Infrastructure for language resources, technologies and services (ESFRI/2006) ΟΠΣ 441451. Participation in the technical coordination.
- **PredMine:** A Predictive Analytics Platform Using Live Big Data. ΕΣΠΑ-Greek-Israel 3487. Participation in the technical coordination.
- **ARCOMEM:** ARchive COMMunities MEMories. European Commission, 7th Framework Programme, FP7 270239. Researcher.
- Consulting Services for the Public and the Private Sector
- Teaching Lessons: Advanced Topics in Database Systems, 9^o Semester (2013, 2014, 2015, 2016, 2017, 2018).

Information Society S.A.

Member of the Board of Directors.

Member of advisory committee of ICT4GROWTH

(05/2015-today)

(7/2019-Today)

(5/2015 – 5/2019)

Centre for Hydrology and Informatics, School of Civil Engineering, NTUA (5/2014-4/2016)

SENIOR RESEARCHER.

- EEA senior consultant in European Topic Centre on Inland, Coastal and Marine Waters (ETC/ICM)
- Data management of WISE Water Quantity dataflow
- IT support to Water Accounting
- Design and implementation of software for management of water data
- Proposal writing for EU-funded Research Programs (Horizon 2020)

Computing Systems Laboratory, School of ECE, NTUA**(11/2005-07/2011)****RESEARCHER.**

- Participated in numerous EU – funded (FP6) and GR – funded (General Secretariat for Research and Technology)

Participation in the development and technical design of the following research projects::

- **STRATUSLAB:** Enhancing Grid Infrastructures with Virtualization and Cloud Technologies (European Commission CP-CSA, RI-261552)

- **GREEDIA:** Grid Enabled Access to Rich media Content). European Commission, 6th Framework Programme, FP6 34363

- **GRIDNEWS:** A Distributed Grid Platform for the Storage and Serving of Audiovisual Content. (GSRT)

PRESENT: Pattern Recognition Based Statistically enhanced MT (European Commission, 6th Framework 63/711)

E-VACATIONS: Implementation of an information system for complex and multiple reservations using Grid and Webservices

Greed: Extraction, mining and management of monolingual, multilingual and multimedia data for various applications

- Responsible for the design, development and deployment of large scale distributed data management platform prototypes based in peer to peer, grid and cloud technologies.
- Participated in the preparation and submission of research proposals (both EU and GR funded).
- Mentoring undergraduate diploma theses.
- Administrator of the artemis.cslab.ntua.gr site that indexes and serves all the diploma theses of the ECE school of NTUA from 2002 up to now.

EXODUS SA Athens**(7/2002–12/2006)****SOFTWARE ENGINEER**

- Development of web Applications using the company's content management system eCentric (HTML, DHTML, JavaScript, ASP, TSQl)
- Responsible for maintenance and debugging of network applications of Piraeus Bank Group
- Development of internet banking applications (www.easypay.gr)
- Development of time tracking application with Visual Basic.
- Development of workflow Management Application using JSP, JavaBeans (Jboss)
- Participated in the E-CLASSIFY research program.

Wateron Multimedia, Athens**(2000-2002)****SOFTWARE ENGINEER**

- Development of a web site (www.thalassa.gr) for the program “Clean Coasts” for the greek ministry for the environment (HTML, DHTML, JavaScript, ASP, SQL)
- Development of a web site (www.thisavros.gr) for the program “Lakes And Rivers” for the greek ministry for the environment. (HTML, DHTML, JavaScript, ASP, SQL)

6. Research Interests

His research interests lie in the field of large scale distributed data management systems (Cloud Computing, P2P and big-data technologies). He is dealing with the design of efficient data management algorithms and systems that can scale to large number of dataset sizes and concurrent

user requests in an adaptive and elastic manner by regulating the resource size and software configurations. His interests cover a wide area of distributed systems such as:

- Elastic Resource Management in Cloud Computing through adaptively and automatically changing the hardware size and software configurations with the use of machine learning techniques (reinforcement learning, decision trees, etc.).
- Large Scale Data Analytics using Distributed Processing Techniques and Big Data Systems such as NoSQL, MapReduce, etc.
- Distributed Load Balancing with Applications to Peer-to-Peer Networks
- Grid Computing

7. Research Projects

He has worked/is working as a researcher in numerous research projects:

- **- OASA Analytics:** Extraction of Performance Indicators of the Transport Project of OASA S.A. and the Passenger Service Level in Athens Public Transport Using Advanced Data Analytical Processing Techniques (Contract ΑΔΑ: ΨΨΡΧ46ΨΧΕ3-Ε2Η)
- **ZEROW:** Systemic Innovations Towards a Zero Food Waste Supply Chain. (GA 101036388, IA, H2020-LC-GD-2020-4)
World hunger is on the rise, yet a third of all food produced globally goes to waste. The EU-funded ZeroW project aims to provide significant contributions to preventing and reducing food waste and enhancing the sustainability of food supply chains. Specifically, ZeroW will carry out the demonstration of diverse innovations in nine real-life food chains, employing a systemic innovation approach to effectively address the multidimensional issue of food waste. Moreover, the project will justify how scaling up the results of the demonstrated innovations, and combining them with appropriate policies, can bring us closer to the Green Deal's 2030 food waste reduction goals.
- **PUZZLE:** Towards a Sophisticated SIEM Marketplace for Blockchain-based Threat Intelligence and Security-as-a-Service (GA 883540, IA, H2020-SU-DS-2019) WP4 Lead
For small and medium-sized enterprises (SMEs) and microenterprises, going digital is important for business growth. But it also presents the risk of cybersecurity attacks. The EU-funded PUZZLE project is developing cybersecurity tools to enable even the smallest enterprises to monitor, forecast, assess and manage their cyber risks. Specifically, the project will track the relationships amongst the cyber assets of each small and microenterprise. It will also consider the available network and compute and storage infrastructures and use them to efficiently calculate individual, cumulative and propagated risks, as well as recommend and apply mitigation actions. The project's goal is to design solutions that can be easily on-boarded by external cybersecurity providers and seamlessly adopted by end users..
- **DataSource:** Πλατφόρμα Εύρεσης, Απεικόνισης και Επεξεργασίας Μεγάλων Ανοιχτών Δεδομένων. Τ2ΕΔΚ-01231. Τεχνικός Υπεύθυνος Έργου

The objective of the DataSource project is to create a technology platform for the development of an ecosystem that generates added value by aggregating and synthesizing open datasets provided by independent "stakeholders" of the scientific value chain to facilitate the conduct of a data-driven research. The project will design and implement an integrated system based on state-of-the-art technologies that will be able to collect, visualize and process combined data from open data sets available using distributed large-scale data processing systems over computing platforms clouds. Users will be able to use the platform to query all available interconnected datasets using an easy-to-use graphical user interface, they will have a brief overview of the available results, will perform some basic transformations in the combined data, and will be able to retrieve the final product of the processing through the available links. The necessary subsystems for information visualization, aggregation/data ingestion and algorithmic processing will be developed using scalable data management techniques. The final system will be able to help users from different sectors such as researchers, public sector employees, etc. to easily conduct their research, while the potential commercial operator will be able, through the use of cloud infrastructure, to create a flexible financial billing model depending on the use of the service (pay-as-you-go).

- **IW-NET:** Innovation driven Collaborative European Inland Waterways Transport Network. (H2020 MG-2-6-2019) Υπεύθυνος για πλατφόρμα Big Data (kick-off αναμένεται Ιούνιο 2020)

IW-NET will deliver a multimodal optimisation process across the EU Transport System, increasing the modal share of IWT and supporting the EC's ambitions to reduce transport GHG emissions by two thirds by 2050. Enablers for sustainable infrastructure management and innovative vessels will support an efficient and competitive IWT sector addressing infrastructure bottlenecks, insufficient IT integration along the chain and slow adoption of technologies such as new vessel types, alternative fuels, automation, IoT, machine learning. The Living Lab will apply usercentered application scenarios in important TEN-T corridors demonstrating and evaluating the impacts in simulations and tests covering technological, organisational, legal, economical, ecological, and safety/security issues: 1) Digitalisation: optimised planning of barge operations serving dense urban areas with predictive demand routing (Brussels-Antwerp-Courtrai-Lille-Valenciennes); data driven optimisation on navigability in uncertain water conditions (Danube). 2) Sustainable Infrastructure and Intelligent Traffic Management: lock forecasting reducing uncertainty in voyage planning; lock planning; management of fairway sections where encounters are prohibited; berth planning with mandatory shore power supply and other services (hinterland of Bremerhaven via Weser/Mittelland Canal). 3) Innovative vessels: new barge designs fitting corridor conditions and target markets: barges with a high degree of automation for urban distribution (East Flanders-Ghent); new barge for push boats capable with low/high water levels optimising capacities (Danube from Austria to Romania); use of GALILEO services for advanced driver assistance like guidance, bridge height warning and automatic lock entering (Spree-Oder waterway close to Berlin). Accompanying activities are stakeholder engagement, capacity building, and the delivery of a European IWT development roadmap with policy recommendations for increasing the IWT share.

- **eThemisID: Ενσωμάτωση των τεχνολογιών eIDAS και e-signature στο Ελληνικό Δικαστικό Σύστημα /CEF/ICT/A2019/1926069 (CEF-Connecting Europe Facility)**

The Greek Justice System consisting of the Hellenic Council of State, the Supreme Civil and Criminal Court and the Court of Audit has made clear steps towards digitizing its operations and offered services with the use of IT infrastructure and software. A significant issue regarding the uptake of digital services in the justice domain is their ability to integrate with existing identification and authorization services in national and pan-European level. The scope of eThemisID is a) to implement the necessary components and integrate them with existing systems to allow the Greek Justice System to offer eIDAS and e-signature compliant services to its end-users in an EU-wide level and b) to extend the national eIDAS node with the ability to offer rich authentication and authorization services to a large number of citizens. The main objectives of eThemisID are:

a) To extend and integrate the national eIDAS node with existing attribute providers for attributes enablement, namely with the Independent Authority for Public Revenue (IAPR), the de-facto identity provider for all economically

active persons and legal entities in Greece, 10M in total, and the Athens Bar Association (ABA).

b) To integrate the implemented components with at least one of the three major Greek Courts, namely the Hellenic Council of State, while offering open-source packages to be considered by adoption from the rest Courts.

c) To showcase eIDAS and e-Seal functionality through the offering of three operational services (TRL-7) as usecases for the Hellenic Council of State namely: 1) eIDAS attribute-based electronic case-file submission and tracking for EU-citizens and lawyers, 2) attribute-based integration of justice software with legal-entity attribute providers (IAPR) and 3) eIDAS-based eSealing of auto-generated documents.

d) To offer readily available open-source components building upon CEF building blocks such as DSS and e-Seal for later adoption.

- **BigOptiBase: Base Station Energy Optimization with Big Data Analytics T1ΕΔΚ-04605 (Ερευνώ - Δημιουργώ - Καινοτομώ)**

The goal of BigOptiBase is to enable smart infrastructure management in order to achieve energy consumption optimization of Mobile Base station equipment, while preserving the quality of service that the mobile users perceive. Towards this direction, an integrated system that collects, analyses, processes and visualizes combined data coming from telecommunication usage and telemetry data of Mobile Base stations as well as available public data will be designed and developed. For this purpose, innovative algorithms and methods of data collection, storage and management will be developed based on open software and hardware technologies, which will enable real-time big data analytics over streaming data generated by Mobile Network Base station operation and by external data sources. Real-time distributed machine learning techniques will be applied in order to develop prediction models towards the dynamic, automated and optimized management of network elements (e.g.

antennas) as well as other elements (e.g. air-conditions) of the radio network infrastructure. Also, specialized hardware will be designed and programmed, which will be installed and used in the base stations to facilitate initial data collection/processing and remote infrastructure management. The experimental evaluation will be performed through an extended network simulator that will be developed emphasizing on quality of service issues utilizing historical usage data from a Greek Mobile Network Operator. Finally, the system will also be installed for pilot operation in existing base stations.

– **E2Data European Extreme Performing Big Data Stacks (Horizon 2020, H2020-ICT-2017-1 # 780245)**

E2Data will provide a new Big Data software paradigm of achieving the maximum resource utilization for heterogeneous cloud deployments that include a diverse selection of architectures such as CPUs, GPUs, FPGAs, and MICs, without affecting current Big Data programming norms. The proposed solution takes a cross-layer approach by allowing vertical communication between the four key layers of Big Data deployments (application, Big Data software, scheduler/cloud provider, and execution run time) which will allow the E2Data-enabled stack to address the following question:

“How can the user establish for each particular business scenario which is the highest performing and cheapest hardware configuration?”

E2Data proposes an end-to-end solution for Big Data deployments that will fully exploit and advance the state-of-the-art in infrastructure services by delivering a performance increase of up to 10x while utilizing up to 50% less cloud resources.

– **SELIS: Towards a Shared European Logistics Intelligent Information Space. (Horizon 2020, MG-6.3-2015)**

SELIS is aimed at delivering a ‘platform for pan-European logistics applications’ by:

- Embracing a wide spectrum of logistics perspectives and creating a unifying operational and strategic business innovation agenda for pan European Green Logistics.

- Establishing an exceptionally strong consortium of logistics stakeholders and ICT providers, that can leverage EU IP from over 40 projects so as to create proof of concept Common Communication and navigation platforms for pan-European logistics applications in month 18 deployed in 8 living labs (LLs) representing the principal logistics communities.

- Establishing a research and innovation environment using the LLs to provide data that can be used for discovery of new insights that will enable continuous value creation supporting the large scale adoption of SELIS.

The proposed Shared European Logistics Intelligent Information Space, SELIS, is a network of logistic communities’ specific shared intelligent information spaces termed SELIS Community Nodes (SCN). SCNs are constructed by individual logistics communities to facilitate the next generation of collaborative, responsive and agile green transportation chains. SCNs link with their participants’ existing systems through a secure infrastructure and provide shared information and tools for data acquisition and use, according to a ‘cooperation agreement’.

Connected nodes, provide a distributed common communication and navigation platform for Pan European logistics applications. Each Node decides what information wishes to publish and what information wants to subscribe to. The SELIS Community Node (SCN) concept represents the evolution of a longline of research in this area. The fundamental principle is that it provides a 'lightweight ICT structure' to enable information sharing for collaborative sustainable logistics for all at strategic and operational levels.

- **MoDiSENSE: A Distributed Platform for the Development of Social Networking Services over Mobile Devices. (GSRT: 09ΣYN-72_881)**

MoDiSENSE enriches social networking services by exploiting the continuous data flow from the daily use of mobile phones. This flow includes data from user visited locations, contacts, calls and calendar combined with data acquired from the user's social network (list of friends, profile and preferences). The project combines these heterogeneous data sources (geographic and social log files, user profiles and preferences and context information) and offers innovative services based on advanced searches and combined queries that exploit all these aforementioned sources. Furthermore, the project deals with the development and deployment of services that exploit spatiotemporal data generated by user paths.

- **CELAR: Automatic, multi-grained elasticity-provisioning for the Cloud, 7th Framework Programme, FP7-ICT-2011-8 #317790**

Auto Scaling Resources is one of the top obstacles and opportunities for cloud computing: consumers can minimise the execution time of their tasks without exceeding a given budget. Cloud providers maximise their financial gain while keeping their customers satisfied and minimising administrative costs. Many systems claim to offer adaptive elasticity, yet the "throttling" is usually performed manually, requiring the user to figure out the proper scaling conditions. In order to harvest the benefits of elastic provisioning, it is imperative that it be performed in an automated, fully customisable manner. CELAR delivers a fully automated and highly customisable system for elastic provisioning of resources in cloud computing platforms.

- **CLARIN-EL: Infrastructure for language resources, technologies and services (ESFRI/2006) OΠΣ 441451.**

The CLARIN-EL project deals with the creation of infrastructure for storing, indexing and sharing repositories with linguistic content. In order to achieve this, a distributed infrastructure over a cloud computing environment will be designed and deployed. The infrastructure is employed with distributed indexing, sharing, storage and execution algorithms using innovative Big-Data technologies.

- **PREDMINE A Predictive Analytics Platform Using Live Big Data. ΕΣΠΑ-Greek-Israel 3487:**

PREDMINE deals with the execution of machine learning algorithms (predictive analytics, machine learning, decision trees, etc.) over large data sets. Data is supplemented with additional information gathered from external sources. The goal is to extract more detailed prediction and classification models in a more accurate manner. For this purpose, distributed storage techniques, indexing and data processing will be studied. Real-time innovative data processing platforms will be evaluated and integrated into the platform.

- **ARCOMEM: ARchive COmmunities MEMories. European Commission, 7th Framework Programme, FP7 270239**

ARCOMEM is an EU-funded research project. It is about memory institutions like archives, museums, and libraries in the age of the Social Web. Memory institutions are more important now than ever: as we face greater economic and environmental challenges we need our understanding of the past to help us navigate to a sustainable future. This is a core function of democracies, but this function faces stiff new challenges in face of the Social Web, and of the radical changes in information creation, communication and citizen involvement that currently characterise our information society (e.g., there are now more social network hits than Google searches). Social media are becoming more and more pervasive in all areas of life.

- **STRATUSLAB: Enhancing Grid Infrastructures with Virtualization and Cloud Technologies. (European Commission CP-CSA, RI-261552)**

StratusLab is developing a complete, open-source cloud distribution that allows grid and non-grid resource centers to offer and to exploit an “Infrastructure as a Service” cloud. It is particularly focused on enhancing distributed computing infrastructures such as the European Grid Infrastructure (EGI).

- **GRECIA: Grid Enabled Access to Rich media Content. European Commission, 6th Framework Programme, FP6 34363**

The main objective of the GRECIA project was to develop a reliable Grid application platform with high-level support for the design, implementation and operational deployment of secure Grid business applications. Thus, GRECIA maintained a novel generic Grid middleware required for applications accessing distributed rich media content using diverse type of devices, including mobile phones. The platform was validated in a real case scenario in the media domain enabling the sharing of resources among different actors such as journalists or editors accessing the Grid from different locations and in some cases using their mobile phones.

- **GRIDNEWS: A Distributed Grid Platform for the Storage and Serving of Audiovisual Content (GSRT)**

The project's purpose is the storage of high fidelity audio-visual material from television channels and then the content processing for the efficient identification of segments containing a predetermined or arbitrary keyword. The project aims to create an integrated information system through which users will be able to identify and then to reproduce portions of audiovisual material, by keyword searching. The information system exploits the distributed nodes of a Grid infrastructure, which distributes the computational load of the processing algorithms and the storage volume of digital data into many nodes, achieving high performance and scalability.

- **PRESENT: (Pattern Recognition-Based Statistically Enhanced MT). (FP7 ICT-2009.2.2 248307):**

The PRESEMT project proposes a novel approach to the problem of Machine Translation by introducing cross-disciplinary techniques, mainly borrowed from the machine learning and computational intelligence domains, in the MT paradigm. To this end, a flexible MT system is developed, which is enhanced with (a) pattern recognition approaches (such as extended clustering or neural networks) towards the development of a language-independent analysis and (b) evolutionary computation (such as Genetic Algorithms or Swarm Intelligence) for system optimisation.

The project features:

Development of a novel method based on generalised clustering techniques, for creating a language-independent phrase aligner also adaptable to phrasing principles designated by the end users

Use of pattern recognition approaches for defining syntactic structure

Employment of techniques inspired by the functional biological systems for disambiguating translations

Extensive use of automated optimisation techniques to define a mature system for methodically optimising system parameters

Application of machine learning methods for allowing system adaptation

Use of parallel computing architectures as well as mainstream multi-core architectures for PCs for substantial advances in translation speed.

8. Professional Service

Journal Reviewing

1. **Guest Editor**, Journal of Grid Computing: From Grids to Cloud Federations. Special Issue: Orchestration of computing resources in the Cloud-to-Things continuum
2. ACM Computing Surveys
3. The Computer Journal (Oxford University Press)
4. IEEE Transactions on Services Computing (IEEE)
5. IEEE Transactions on Knowledge and Data Engineering (IEEE)
6. IEEE Transactions on Parallel and Distributed Systems (IEEE)
7. IEEE Transactions on Cloud Computing (IEEE)
8. Data & Knowledge Engineering (Elsevier)
9. GeoInformatica (Springer)
10. Archives for Scientific Computing (Springer)
11. The Journal of Supercomputing (Springer)
12. Big Data Research (Elsevier)
13. Future Generation Computer Systems (Elsevier)
14. International Journal of Cooperative Information Systems (World Scientific)

15. Algorithms (MDPI)
16. Sustainability (MDPI)
17. Engineering Applications of Artificial Intelligence (Elsevier)
18. Computers and Electrical Engineering (Elsevier)
19. Simulation Modeling Practice and Theory (Elsevier)
20. Journal of Web Semantics (Elsevier)
21. Journal of Systems and Software (Elsevier)
22. Computer Networks (Elsevier)
23. International Journal on Artificial Intelligence Tools (World Scientific)
24. International Journal of Metadata, Semantics and Ontologies (Inderscience)

Program Committee Member

1. PC Member, 30th IEEE Symposium on Computers and Communications (ISCC) 2025
2. **Chair**, 5th Workshop on From Cloud to Things: harnessing pervasive data in the Computing Continuum - (Cloud2Things) 2025 - in conjunction with IEEE PERCOM 2025
3. PC Member, 11th IEEE International Conference on Data Science and Advance Analytics (IEEE DSAA 2024)
4. **PC Member, ACM SIGMOD** International Conference on Management of Data 2025
5. PC Member, 20th International Conference on Advanced Data Mining and Applications (ADMA 2024)
6. PC Member, 29th IEEE Symposium on Computers and Communications, 2024.
7. **Proceedings Chair**, Nineteenth ACM European Conference on Computer Systems (EuroSys 2024)
8. **Chair**, 4th Workshop on From Cloud to Things: harnessing pervasive data in the Computing Continuum - (Cloud2Things) 2024 - in conjunction with IEEE PERCOM 2024
9. **Chair**, 3rd Workshop on From Cloud to Things: harnessing pervasive data in the Computing Continuum - (Cloud2Things) 2023 - in conjunction with IEEE PERCOM 2023
10. PC Member, International Conference on Advanced Data Mining and Applications 2023
11. PC Member, 29th International European Conference on Parallel and Distributed Computing (EuroPar 2023)
12. PC Member, 10th IEEE International Conference on Data Science and Advance Analytics (IEEE DSAA 2023)
13. PC Member, IEEE International Conference on Metaverse Computing, Networking and Applications (IEEE MetaCom 2023)
14. PC Member, 28th International Conference on Database Systems for Advanced Applications (DASFAA 2023)
15. PC Member, DistInSys 2022 2st International Workshop on Distributed and Intelligent Systems in conjunction with IEEE ISCC 2022
16. **Chair**, 2nd Workshop on Cloud-to-Things continuum: towards the convergence of IoT, Edge and Cloud Computing - (Cloud2Things) 2022 - in conjunction with IEEE/ACM CCGRID 2022
17. PC Member, 27th International Conference on Database Systems for Advanced Applications (DASFAA 2022)
18. **PC Member, ACM SIGMOD** International Conference on Management of Data 2022

19. PC Member, International Workshop on Security and Privacy for SMEs (SME-SP 2021), in Conjunction with the 16th International Conference on Availability, Reliability and Security (ARES 2021)
20. **Chair**, 1st Workshop on Cloud-to-Things continuum: towards the convergence of IoT, Edge and Cloud Computing - (Cloud2Things) 2021 - in conjunction with IEEE/ACM CCGRID 2021
21. PC Member, 26th International Conference on Database Systems for Advanced Applications (DASFAA 2021)
22. PC Member, 10th International Conference on Cloud Computing and Services Science (CLOSER 2020)
23. PC Member, 1st Workshop on Secure IoT, Edge and Cloud systems - in conjunction with CCGRID 2020
24. PC Member, 20th Annual IEEE/ACM International Symposium in Cluster, Cloud, and Grid Computing (CCGrid 2020)
25. PC Member, 19th Annual IEEE/ACM International Symposium in Cluster, Cloud, and Grid Computing (CCGrid 2019)
26. PC Member, 9th International Conference on Cloud Computing and Services Science (CLOSER 2019)
27. **Chair**, Short Papers, Posters and Demos, IEEE CloudCom 2018
28. PC Member, 1st International Workshop on Next Generation Clouds for Extreme Data Analytics in conjunction with IEEE CloudCom 2018
29. PC member: International Workshop on Semantic Big Data (SBD 2018) in conjunction with SIGMOD 2018
30. PC member: 8th International Conference on Cloud Computing and Services Sciences (CLOSER 2018)
31. PC member: International Workshop on Semantic Big Data (SBD 2017) in conjunction with SIGMOD 2017
32. PC Member: International Workshop on Autonomic Systems for Big Data Analytics (ASBDA 2017) in conjunction with the 2017 IEEE International Conference on Cloud and Autonomic Computing (ICCAC)
33. Publicity co-chair, PC member: 1st International Workshop on Autonomic Management of Large Scale Container-Based Systems in conjunction with the 2017 IEEE International Conference on Cloud and Autonomic Computing (ICCAC)
34. PC member: International Workshop on Semantic Big Data (SBD 2016) in conjunction with SIGMOD 2016
35. PC member: IEEE International Symposium on Network Computing and Applications (NCA 2016)
36. PC member: 8th International Conference on Knowledge Discovery and Information Retrieval (KDIR 2016)
37. PC member: 2nd International Workshop on Algorithmic Aspects of Cloud Computing (ALGO CLOUD 2016)
38. PC member: Advances in High Dimensional Big Data, in Conjunction with IEEE BigData 2015
39. PC member: IEEE International Symposium on Network Computing and Applications (NCA 2015)

- 40. PC member: 1st International Workshop on Algorithmic Aspects of Cloud Computing (ALGO CLOUD 2015)
- 41. PC member: 24th ACM International Conference on Information and Knowledge Management (CIKM 2015)
- 42. PC member: 23rd ACM International Conference on Conference on Information and Knowledge Management (CIKM 2014)
- 43. PC member: Fourth International Workshop on Cloud Data Management (CloudDB 2012), in conjunction with CIKM 2012

9. Publications

THESIS:

- Δ1. Ioannis Konstantinou, «**Adaptive Load Balancing Algorithms for Distributed Data Management Systems (Peer to Peer and Cloud Computing)**» PhD thesis, School of ECE, NTUA, CSLAB, 2011.
- Δ2. Ioannis Konstantinou, «**Data Grid: Integrating Heterogeneous and Distant Data Stores**» Masters Thesis, Techno-Economic Systems (MBA), School of ECE, NTUA, 2007
- Δ3. Ioannis Konstantinou, «**Creation, Editing and Production of Printable Undergraduate Handbook Using Static and Dynamic Content**» Diploma Thesis, School of ECE, NTUA, 2004.

CONFERENCE PROCEEDINGS:

- Σ1. A. Spyrou, I. Konstantinou, and N. Koziris. **A Decision Support System for Automated Configuration of Cloud Native ML Pipelines** In proceedings of the 4th International Workshop on From Cloud to Things: Harnessing pervasive data in the Computing Continuum - (Cloud2Things) in conjunction with IEEE Pervasive Computing 2024 PerCom, Biarritz, France, March 11-15 2024.
- Σ2. M. Chrysopoulos, I. Konstantinou, and N. Koziris: **Deep Reinforcement Learning in Cloud Elasticity through Offline Learning and Return Based Scaling** In proceedings of the 16th IEEE International Conference on Cloud Computing (CLOUD), Chicago, IL, USA, July 2-8 2023 (to appear)
- Σ3. N. Nikitas, I. Konstantinou, V. Kalogeraki, and N. Koziris: **Cherry: A Distributed Task-Aware Shuffle Service for Serverless Analytics** In proceedings of the 2021 IEEE International Conference on Big Data (BigData 2021), December 15-18 2021
- Σ4. A. Krisilias, N. Provatas, I. Konstantinou, and N. Koziris: **A Performance Evaluation of Distributed Deep Learning Frameworks on CPU Clusters Using Image Classification Workloads** In proceedings of the Fifth IEEE International Workshop on Benchmarking, Performance Tuning and Optimization for Big Data Applications (BPOD 2021 in conjunction with IEEE BigData 2021), virtual event, December 15-18 2021

- Σ5. N. Provatias, I. Konstantinou, and N. Koziris: **Is Systematic Data Sharding able to Stabilize Asynchronous Parameter Server Training?** In proceedings of the 2021 IEEE International Conference on Big Data (BigData 2021), December 15-18 2021
- Σ6. A. Tsiourvas, C. Bitsakos, I. Konstantinou, D. Fotakis, and N. Koziris: **A Mechanism Design and Learning Approach for Revenue Maximization on Cloud Dynamic Spot Markets** In proceedings of the 14th IEEE International Conference on Cloud Computing (CLOUD), September 5-11 2021
- Σ7. N. Provatias, E. Kassela, N. Chalcantzas, A. Bakogiannis, I. Giannakopoulos, I. Konstantinou and N. Koziris: **SELIS BDA: Big Data Analytics for the Logistics Domain.** In proceedings of the 2020 Applications of Big Data Technology in the Transport Industry Workshop (in conjunction with IEEE BigData 2020), December 10-13 2020
- Σ8. C. Kotselidis et al.: **Efficient Compilation and Execution of JVM-Based Data Processing Frameworks on Heterogeneous Co-Processors** In Proceedings of the Design, Automation and Test in Europe Conference (DATE 2020)
- Σ9. E. Kassela, N. Provatias, I. Konstantinou, A. Floratou and N. Koziris: **General-Purpose vs. Specialized Data Analytics Systems: A Game of ML & SQL Thrones** In proceedings of the 2019 IEEE International Conference on Big Data (BigData 2019), Los Angeles, CA, USA December 9-12 2019
- Σ10. E. Kassela, N. Provatias, A. Tsiourvas, I. Konstantinou, and N. Koziris: **BigOptiBase: Big Data Analytics for Base Station Energy Consumption Optimization** In proceedings of the 2019 IEEE International Conference on Big Data (BigData 2019), Los Angeles, CA, USA December 9-12 2019
- Σ11. N. Provatias, I. Konstantinou and N. Koziris: **Towards Faster Distributed Deep Learning Using Data Hashing Techniques** In proceedings of the 2019 IEEE International Conference on Big Data (BigData 2019), Los Angeles, CA, USA December 9-12 2019
- Σ12. E. Kassela, I. Konstantinou and N. Koziris: **Towards a Multi-engine Query Optimizer for Complex SQL Queries on Big Data** In proceedings of the 2019 IEEE International Conference on Big Data (BigData 2019), Los Angeles, CA, USA December 9-12 2019
- Σ13. K. Bitsakos, I. Konstantinou and N. Koziris: **DERP: A Deep Reinforcement Learning Cloud System for Elastic Resource Provisioning** In proceedings of the 2018 IEEE International Conference on Cloud Computing Technology and Science (CloudCom), Nicosia, Cyprus December 10-13 2018
- Σ14. Ioannis Mytilinis, Constantinos Bitsakos, Katerina Doka, Ioannis Konstantinou and Nectarios Koziris: **The Vision of a Heterogeneous Scheduler** In proceedings of the 1st International Workshop on Next Generation Clouds for Extreme Data Analytics (Xtreme-cloud - in conjunction with IEEE CloudCom 2018), Nicosia, Cyprus December 10-13 2018
- Σ15. N. Zacheilas, N. Chalcantzas, I. Konstantinou, V. Kalogeraki and N. Koziris: **ORiON: Online Resource Negotiator for multiple Big Data Analytics frameworks** In proceedings of the 2018 IEEE International Conference on Autonomic Computing (ICAC 2018), Trento, Italy, September 3-7 2018 (to appear).
- Σ16. A. Naskos, A. Gounaris and I. Konstantinou: **Elton: a Cloud Resource Scaling-out Manager for NoSQL Databases.** In proceedings of the 2018 IEEE International Conference of Data Engineering (ICDE 2018), Paris, France, April 16-19 2018 (to appear)
- Σ17. K. Lolos, I. Konstantinou, V. Kantere and N. Koziris: **Elastic Management of Cloud Applications using Adaptive Reinforcement Learning.** In proceedings of the

2017 IEEE International Conference on Big Data (BigData 2017), Boston, MA, USA
December 11-14 2017

- Σ18. G. Touloupas, I. Konstantinou and N. Koziris: **RASP: Real-time Network Analytics with Distributed NoSQL Stream Processing**. In proceedings of the 2nd Workshop on Real-time and Stream Analytics in Big Data (in conjunction with IEEE BigData 2017), Boston, MA, USA December 11-14 2017
- Σ19. T. Doudali, I. Konstantinou and N. Koziris: **Spaten: a Spatio-temporal and Textual Big Data Generator**. In proceedings of the 2017 Big Spatial Data Workshop (BSD 2017 in conjunction with IEEE BigData 2017), Boston, MA, USA December 11-14 2017
- Σ20. K. Doka, I. Mytilinis, I. Giannakopoulos, I. Konstantinou, D. Tsitsigkos, M. Terrovitis and N. Koziris: **Exploiting Social Networking and Mobile Data for Crisis Detection and Management**. In Proceedings of the International Conference on Information Systems for Crisis Response and Management in Mediterranean Countries. Springer, Cham, 2017.
- Σ21. K. Lolos, I. Konstantinou, V. Kantere and N. Koziris: **Rethinking Reinforcement Learning for Cloud Elasticity**. In Proceedings of ACM Symposium of Cloud Computing conference, Santa Clara, California USA, September 25-27 (SoCC'17)
- Σ22. K. Lolos, I. Konstantinou, V. Kantere and N. Koziris: **Adaptive State Space Partitioning of Markov Decision Processes for Elastic Resource Management**. In proceedings of the 2017 IEEE International Conference of Data Engineering, San Diego, CA, USA April 19-22 (ICDE 2017)
- Σ23. N. Chalcantzis, I. Konstantinou and N. Koziris : **BBQ: Elastic MapReduce over Cloud Platforms**. In proceedings of the 17th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing, Madrid, Spain May 14-17 (CCGrid 2017)..
- Σ24. Giannakopoulos, I. Konstantinou, D. Tsoumakos and N. Koziris : **AURA: Recovering from Transient Failures in Cloud Deployment**. In proceedings of the 17th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing, Madrid, Spain May 14-17 (CCGrid 2017).
- Σ25. I. Giannakopoulos, I. Konstantinou, D. Tsoumakos and N. Koziris: **Recovering from Cloud Application Deployment Failures through Re-execution**. In proceedings of the 2nd International Workshop on Algorithmic Aspects of Cloud Computing (ALGO CLOUD 2016), in conjunction with the ALGO 2016 Conference, August 22, 2016, Aarhus, Denmark
- Σ26. Copil, G., Moldovan, D., Le, H. D., Truong, H., Dustdar, S., Sofokleous, C., Louloundes, N., Trihinas, D., Pallis, G., Dikaiakos, M. D., Giannakopoulos, I., Papailiou, N., Konstantinou, I., Sheridan, C., Loverdos, C. K., Floros, E., Star, K., & Xing, W. **On Controlling Elasticity of Cloud Applications in CELAR**. In S. Bagchi (Ed.), Emerging Research in Cloud Distributed Computing Systems (pp. 222-252). Hershey, PA.
- Σ27. E. Kassela, I. Konstantinou and N. Koziris: **A Generic Architecture for Scalable and Highly Available Content Serving Applications in the Cloud** In proceedings of the 4th IEEE Symposium on Network Cloud Computing and Applications (NCCA 2015), Munich, Germany, June 11-12 2015.
- Σ28. I. Mytilinis, I. Giannakopoulos, I. Konstantinou, K. Doka, D. Tsitsigkos, M. Terrovitis, L. Giampouras and N. Koziris: **MoDisSENSE: A Distributed Spatio-Temporal and Textual Processing Platform for Social Networking Services**. In

- Proceedings of the 2015 ACM SIGMOD/PODS International Conference on Management of Data (SIGMOD'15), Demo track, Melbourne, Victoria, Australia, 2015.
- Σ29. A. Naskos, E. Stachtari, A. Gounaris, P. Katsaros, D. Tsoumakos, I. Konstantinou and S. Sioutas **Dependable Horizontal Scaling Based On Probabilistic Model Checking** In proceedings of the 15th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Shenzhen, Guangdong, China, May 4-7, 2015 **(best paper award nomination)**
- Σ30. E. Kassela, C. Boumpouka, I. Konstantinou and N. Koziris: **Automated Workload-aware Elasticity of NoSQL Clusters in the Cloud.** In proceedings of the 2014 IEEE International Conference on Big Data (BigData 2014), Washington DC, USA, October 27-30 2014.
- Σ31. I. Mytilinis, I. Giannakopoulos, I. Konstantinou, K. Doka and N. Koziris: **MoDisSENSE: A Distributed Platform for Social Networking Services over Mobile Devices.** In proceedings of the 2014 IEEE International Conference on Big Data (BigData 2014), Washington DC, USA, October 27-30 2014.
- Σ32. I. Giannakopoulos, N. Papailiou, C. Mantas, I. Konstantinou, D. Tsoumakos and N. Koziris: **CELAR: Automated Application Elasticity Platform.** In proceedings of the 2014 IEEE International Conference on Big Data (BigData 2014), Washington DC, USA, October 27-30 2014.
- Σ33. N. Papailiou, D. Tsoumakos, I. Konstantinou, P.Karras and N. Koziris: **H2RDF+: An Efficient Data Management System for Big RDF Graphs.** In Proceedings of the 2014 ACM SIGMOD/PODS International Conference on Management of Data (Demo Track), Snowbird, Utah, USA.
- Σ34. N. Papailiou, D. Tsoumakos, I. Konstantinou, P.Karras and N. Koziris: **Scalable Indexing and Adaptive Querying of RDF Data in the cloud.** In Proceedings of the 6th International Workshop on Semantic Web Information Management - SWIM 2014 (in conjunction with the 2014 ACM International Conference on Management of Data), Snowbird, Utah, USA.
- Σ35. N. Papailiou, I. Konstantinou, D. Tsoumakos, P.Karras and N. Koziris: **H2RDF+: High-performance Distributed Joins over Large-scale RDF Graphs.** In proceedings of the 2013 IEEE International Conference on Big Data (BigData 2013), Santa Clara, CA, USA, October 6-9 2013
- Σ36. I. Konstantinou, D. Tsoumakos, I. Mytilinis and N. Koziris: **DBalancer: Distributed Load Balancing for NoSQL Data-stores.** In proceedings of the 2013 ACM SIGMOD/PODS International Conference on Management of Data, New York, USA, June 22-27 2013.
- Σ37. I. Konstantinou, V. Kantere, D. Tsoumakos, and N. Koziris: **COCCUS: Self-Configured Cost-Based Query Services in the Cloud.** In proceedings of the 2013 ACM SIGMOD/PODS International Conference on Management of Data, New York, USA, June 22-27 2013.
- Σ38. D. Tsoumakos, I. Konstantinou, C. Boumpouka, S. Sioutas and N. Koziris: **Automated, Elastic Resource Provisioning for NoSQL Clusters Using TIRAMOLA.** In proceedings of the 13th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid), Delft, The Netherlands, May 13-16, 2013 **(best paper award).**

- Σ39. I. Konstantinou and E. Floros and N. Koziris **Public vs Private Cloud Usage Costs: The StratusLab Case** In proceedings of the 2nd International Workshop on Cloud Computing Platforms (CloudCP 2012 - In conjunction with EuroSys), Bern, Switzerland, 2012
- Σ40. E. Angelou and N. Papailiou and I. Konstantinou and D. Tsoumakos and N. Koziris **Automatic Scaling of Selective SPARQL Joins Using the TIRAMOLA System** In proceedings of the 4th International Workshop on Semantic Web Information Management (SWIM 2012 - In conjunction with SIGMOD), Scottsdale, Arizona, USA, 20 May 2012,
- Σ41. I. Konstantinou and E. Angelou and C. Boumpouka and D. Tsoumakos and N. Koziris and S. Sioutas **TIRAMOLA: Elastic NoSQL Provisioning through A Cloud Management Platform** In proceedings of the ACM SIGMOD International Conference on Management of Data (SIGMOD demo track), Scottsdale, Arizona, USA, 2012
- Σ42. N. Papailiou and I. Konstantinou and D. Tsoumakos and N. Koziris **H2RDF: Adaptive Query Processing on RDF Data in the Cloud** In Proceedings of the 21th International Conference on World Wide Web (WWW demo track), Lyon, France, 2012
- Σ43. P. Antonopoulos and I. Konstantinou and D. Tsoumakos and N. Koziris **Efficient Updates for Web-scale Indexes over the Cloud** In Proceedings of the International Workshop of Data Management in The Cloud (DMC2012 - In conjunction with ICDE 2012).
- Σ44. Preuß S. and Keffer, H. and Schmidt, P. and Goumas, G. and Asiki, A., and Konstantinou, I. **User Adaptation in a Hybrid MT System.** In International Conference on Text, Speech and Dialogue (pp. 362-369). Springer Berlin Heidelberg. (2012, September).
- Σ45. I. Konstantinou and E. Angelou and D. Tsoumakos and N. Koziris: **Distributed Indexing of Web Scale Datasets for the Cloud.** In Proceedings of the International Workshop on Massive Data Analytics on the Cloud (MDAC2010 - in conjunction with WWW 2010), Raleigh, NC, USA, 26 April 2010.
- Σ46. I. Konstantinou and E. Angelou and C. Boumpouka and D. Tsoumakos and N. Koziris **On the Elasticity of NoSQL Databases over Cloud Management Platforms** In Proceedings of the 20th International Conference on Information and Knowledge Management (CIKM), Glaskow, Scotland, UK, 2011, pp. 2385-2388
- Σ47. I. Konstantinou and D. Tsoumakos and N. Koziris: **Measuring the Cost of Online Load-Balancing in Distributed Range-Queriable Systems.** In Proceedings of the 9th International IEEE Conference on Peer-to-Peer Computing (P2P), Seattle, WA, USA, 8-11 September 2009.
- Σ48. D. Dimitriadis, A. Metallinou, I. Konstantinou, G. Goumas, P. Maragos and N. Koziris: **GRIDNEWS: A Distributed Automatic Greek Broadcast Transcriptions System.** Proc. of IEEE Intern. Conf. on Acoustics, Speech and Signal Processing ICASSP-09, Taipei, Taiwan, March 2009.
- Σ49. I. Konstantinou and D. Tsoumakos and N. Koziris: **PASS It ON (PASSION): An Adaptive Online Load-Balancing Algorithm for Distributed Range-Query specialized Systems.** In Proceedings of the 16th International Conference on Cooperative Information Systems (COOPIS), Monterrey, Mexico, 12-14 November 2008
- Σ50. A. Asiki, K. Doka, I. Konstantinou, A. Zissimos, and N. Koziris: **A Distributed Architecture for Multi-Dimensional Indexing and Data Retrieval in Grid Environments.** In Proceedings of the Cracow 2007 Grid Workshop (CGW'07), Krakow, Poland, October 16-17, 2007.

Σ51.I. Konstantinou, K. Doka, A. Asiki, A. Zissimos, and N. Koziris: **Gredia Middleware Architecture**. In Proceedings of the Cracow 2007 Grid Workshop (CGW'07), Krakow, Poland, October 16-17, 2007.

JOURNALS:

Π1.E. Kassela, I. Konstantinou and N. Koziris, **Accelerating Distributed Repartition Joins on Skewed Datasets via Patch-Based Shuffling**, in IEEE Access, vol. 13, pp. 41068-41096, 2025, doi: 10.1109/ACCESS.2025.3547623

Π2.N. Provatas, I. Konstantinou and N. Koziris: **A Survey on Parameter Server Architecture: Approaches for Optimizing Distributed Centralized Learning**, in IEEE Access, vol. 13, pp. 30993-31015, 2025, doi: 10.1109/ACCESS.2025.3535085.

Π3.N. Provatas, I. Chalas, I. Konstantinou and Nectarios Koziris: **Strategy-Switch: From All-Reduce to Parameter Server for Faster Efficient Training**, in IEEE Access, vol. 13, pp. 9510-9523, 2025, doi: 10.1109/ACCESS.2025.3528248

Π4.N. Chalvantzis, A. Vontzalidis, E. Kassela, A. Spyrou, N. Nikitas, N. Provatas, I. Konstantinou and N. Koziris: **IW-NET BDA: A Big Data Infrastructure for Predictive and Geotemporal Analytics of Inland Waterways**, in IEEE Access, vol. 12, pp. 52503-52523, 2024, doi: 10.1109/ACCESS.2024.3387315.

Π5.I. Giannakopoulos, I. Konstantinou, D. Tsoumakos and N. Koziris: **Cloud Application Deployment with Transient Failure Recovery**. Journal of Cloud Computing, Springer, 2018 7:11

Π6.D. Sarlis, N. Papailiou, I. Konstantinou, G. Smaragdakis and N. Koziris: **Datix: A System for Scalable Network Analytics** ACM SIGCOMM Computer Communication Review, 45(5), October 2015.

Π7.I. Konstantinou and D. Tsoumakos and N. Koziris: **Fast and Cost-Effective Online Load-Balancing in Distributed Range-Queryable Systems**. IEEE Transactions on Parallel and Distributed Systems (TPDS) vol. 22, August 2011, pp. 1350-1364.

Π8.A. Asiki and A. Doka and I. Konstantinou and A. Zissimos and D. Tsoumakos and N. Koziris and P. Tsanakas: **A Grid middleware for data management exploiting Peer-to-Peer techniques**. *Future Generation Computer Systems*, vol. 25, Apr. 2009, pp. 426-435.

10. Awards

- 1) Best Paper Award, 13th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid) for the paper Σ38
- 2) Best Paper Award Nomination, 15th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid) for the paper Σ29
- 3) 2009, 2011 NTUA Thomaïdion Award for outstanding publications in scientific journal or conference proceedings for the papers Σ47 and Π7

11. Press Mentions

- 1) Αλλάζουν οι μεταφορές με ελληνική «σφραγίδα» (Καθημερινή)

<https://www.kathimerini.gr/society/1042967/allazoyn-oi-metafores-me-elliniki-sfragida/>

- 2) European Commission Intelligence Body Completes Global Supply Chain Mission (Forbes)

<https://www.forbes.com/sites/adrianbridgwater/2019/09/03/european-commission-intelligence-body-completes-global-supply-chain-mission/?sh=7b95dccf16df>

- 3) Διεθνές βραβείο σε εργασία Ελλήνων για το i-cloud (Καθημερινή)

<https://www.kathimerini.gr/society/496105/diethnes-vraveio-se-ergasia-ellinon-gia-to-i-cloud/>

- 4) Ο... Τιραμόλα που κέρδισε το Διεθνές Συμπόσιο Υπολογιστών (Πατρίς)

<https://archive.patris.gr/articles/247457#.UiSppx0pOfk>

12. Citations

The aforementioned publications have received more than 1365 citations, and the value of h-index is 20, according to Google Scholar:
<http://scholar.google.gr/citations?hl=el&user=4LnVNmIAAAAJ>