

CURRICULUM VITAE

Spyros Zoupanos

Senior Software Engineer Team Lead, PhD, PM²

Date of birth: 3rd of December, 1982

Tel: +30 694 281 39 39

E-mail: spyros@zoupanos.net

Homepage: <http://spyros.zoupanos.net>



PROFESSIONAL EXPERIENCE

- 5/2019 - present **Senior Software Engineer Team Lead**
Independent Authority for Public Revenue (IAPR), Athens, Greece
- Development of financial internet applications (user interface, backend, data management and analysis)
 - Reorganization of the software development process of IAPR (continuous integration and continuous delivery)
 - Supervision and training of a team of 4 developers on full stack development of financial applications
- Technologies: *AngularJS, Javascript, (REST) Web Services, Java 8, Oracle Database, SQL, PL/SQL Git, Docker, Continuous Integration, Continuous Delivery*
- 5/2021 - present **Senior Researcher (Part-time)**
Ionian University, Corfu, Greece
- Research on natural language processing (NLP) problems and machine learning problems on mobile networks
- 1/2020 - 1/2021 **Senior Researcher (Part-time)**
Athena Research Center (ARC), Athens, Greece
- Research and development on an Open Science platform
 - Data analysis and data organization
- Technologies: *Hive, Apache Impala, Java*
- 5/2019 - 7/2020 **Collaborating researcher (Part-time)**
École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland
- Research and development on an Open Science platform
- 6/2015 - 5/2019 **Software Engineer & Senior Researcher**
École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland
- Development of a large scale Open Science platform:
 - Platform for large scale of simulation management and automation, provenance tracking and analysis (<http://www.aaida.net>)
 - Dissemination portal and cloud simulation platform (<https://www.materialscloud.org>)
 - Data management and system scalability
 - Resolution of software engineering problems
 - Student supervision and workshop organization
- Technologies: *Python 2.7/3.5, SQLAlchemy, Django, PostgreSQL, Web Services, Javascript*
- 7/2014 - 6/2015 **Software Engineer (Single sign-on project manager)**
Max-Planck-Institut für Physik, Munich, Germany
- Management and implementation of the single sign-on project (infrastructure enabling users securely authenticate with multiple services and computers by logging in only once)

- Analysis of Institute's needs
- Design and execution of the migration to the new authentication mechanism

Technologies: *Kerberos, LDAP, NFS, Active Directory, Samba, Linux, Windows*

10/2012 - 7/2014

Senior Developer

Quartet Financial Systems, Paris, France

- Development of a multidimensional in-memory database for real time analysis of financial data
- Proposal of efficient solutions to open problems
- Redesign of system parts to match new updated needs
- Analysis and documentation of complex parts of the platform
- Connection between academia and industry and platform adjustment to client needs

Technologies: *Java 8 core and Web services*

9/2010 - 9/2012

Postdoctoral Researcher

Max-Planck-Institut für Informatik, Saarbrücken, Germany

- Research on the domain of data analysis and knowledge extraction from large document collections
- Analysis of journal articles by extracting useful information categorised in certain relations
- Extraction of frequent word sequences (with gap) from big document sets. Development and optimization of distributed (MapReduce) algorithms
- Research results presented in top-tier international conferences

Technologies: *Java 7, MapReduce, Hadoop, HBase, HDFS.*

12/2009 - 9/2010

Postdoctoral collaborator

INRIA-Saclay-Ile de France, Orsay, France

- Research on the domain of data management and query rewriting
- Development of an XML data warehouse system supporting XQuery query rewriting with the use of materialized views

9/2009 - 9/2010

Teaching assistant (Part-time)

Université Paris 9 (Dauphine), Paris, France

- Undergraduate and postgraduate courses on Java programming, databases and semistructured data:
 - Lectures, student workshops, supervising exercises

EDUCATION

10/2006 - 12/2009

Ph. D. in Data Management & XML Query Rewriting

INRIA-Futurs (Gemo Team), Orsay, France

Thesis title: *Efficient peer-to-peer data management* (Excellent with Honors) - Supervisors: *Prof. S. Abiteboul and Prof. I. Manolescu*

- Co-supervision of interns and software engineers
- Research results presented in top-tier international conferences

Technologies: *Java core and Web services, XML, XQuery, XPath, XSLT, bash scripting*

10/2004 - 10/2006

M.Sc. in Advanced Information Systems

Department of Computer Science & Telecommunications, National University of Athens, Greece

Thesis title: *Optimizing queries using materialized views* (GPA: 8.66/10) - Supervisor: *Prof. A. Delis*

Technologies: *C++, QT for the GUI*

10/2000 - 10/2004

B.Sc. Computer Science & Telecommunications

National University of Athens, Greece

Thesis title: *Performance Measuring Tool for Database Systems* (GPA: 7.79/10) - Supervisor: *Prof. Y. Ioannidis*

Technologies: *HTML, Javascript, Oracle database*

TEACHING EXPERIENCE

1/2010 - 2/2010	Teaching XML, XSLT, XPath, XQuery (M.Sc - Univ. Paris 9)
1/2010 - 5/2010	Teaching assistant, Relational databases (M.Sc. - Univ. Paris 9)
12/2009 - 3/2010	Teaching assistant, Semistructured data & XML (M.Sc - Univ. Paris 11)
10/2009 - 1/2010	Teaching assistant, Java programming (B.Sc. - Univ. Paris 9)
1/2009	Teaching assistant, Semistructured data & XML (M.Sc. - Univ. Paris 11)
10/2008 - 11/2008	Teaching assistant, Information management on the Web (M.Sc. - Univ. Paris 11)
02/2006 - 7/2006	Teaching assistant, Implementation of Database Systems (B.Sc. - Univ. of Athens)
02/2006 - 7/2006	Computer lab assistant in the Department of Computer science (Univ. of Athens)
10/2004 - 2/2005	Teaching assistant, Theory of Computation (B.Sc. - Univ. Of Athens)
2002	Teaching assistant in the training programme of computer science for high school teachers

PUBLICATIONS

Available at <http://spyros.zoupanos.net>

Journals

- N. Nomikos, S. Zoupanos, T. Charalambous, I. Krikidis. *A Survey on Reinforcement Learning-Aided Caching in Mobile Edge Networks*. IEEE Access, vol. 10, pp. 4380-4413, 2022, appeared in arXiv (arXiv:2105.05564 [cs.NI])
- S.P. Huber, S. Zoupanos, M. Uhrin, L. Talirz, L. Kahle, R. Häuselmann, D. Gresch, T. Müller, A. V. Yakutovich, C. W. Andersen, F. F. Ramirez, C. S. Adorf, F. Gargiulo, S. Kumbhar, E. Passaro, C. Johnston, A. Merkys, A. Cepellotti, N. Mounet, N. Marzari, B. Kozinsky, G. Pizzi. *AiiDA 1.0, a scalable computational infrastructure for automated reproducible workflows and data provenance*. Nature - Scientific Data, 7(1):300, Sep 2020, appeared in arXiv (arXiv:2003.12476[cs.DC])
- L. Talirz, S. Kumbhar, E. Passaro, A. V. Yakutovich, V. Granata, F. Gargiulo, M. Borelli, M. Uhrin, S. P. Huber, S. Zoupanos, C. S. Adorf, C. W. Andersen, O. Schütt, C. A. Pignedoli, D. Passerone, J. VandeVondele, T. C. Schulthess, B. Smit, G. Pizzi, N. Marzari. *Materials Cloud, a platform for open computational sciences*. Nature - Scientific Data, 7(1):299, Sep 2020, appeared in arXiv (arXiv:2003.12510 [cond-mat.mtrl-sci])

Conferences

- S. Zoupanos, S. Kolovos, A. Kanavos, O. Papadimitriou, M. Maragoudakis. *Efficient comparison of sentence embeddings*. SETN (Hellenic Conference on Artificial Intelligence) 2022, SETN '22, appeared in arXiv (arXiv:2204.00820 [cs.CL])
- S. Zoupanos, L. Kahle, S. P. Huber, M. Uhrin, N. Mounet, R. A. Häuselmann, S. Kumbhar, L. Talirz, A. Cepellotti, F. Gargiulo, A. Merkys, B. Kozinsky, N. Marzari, G. Pizzi. *AiiDA: A simulation platform with full provenance support and flexible workflows*. PASC (The Platform for Advanced Scientific Computing Conference co-sponsored by ACM and CSCS) 2018 - poster (not in the proceedings)
- I. Miliaraki, K. Berberich, R. Gemulla, S. Zoupanos. *Mind the Gap: Large-Scale Frequent Sequence Mining*. SIGMOD (ACM's Special Interest Group on Management Of Data Conference) 2013, SIGMOD '13, pages 797–808, 2013. ACM
- K. Karanasos, A. Katsifodimos, I. Manolescu, S. Zoupanos. *ViP2P : Efficient XML Management in DHT Networks*. ICWE (International Conference on Web Engineering) 2012 - short paper, volume 7387, pages 386–394, 2012
- Y. Wang, B. Yang, S. Zoupanos, M. Spaniol, G. Weikum. *Scalable Spatio-temporal Knowledge Harvesting*. WWW (World Wide Web Conference) 2011 - poster, WWW '11, pages 143–144, 2011. ACM
- I. Manolescu, K. Karanasos, V. Vassalos, S. Zoupanos. *Efficient XQuery rewriting using Multiple Views*. ICDE (IEEE's International Conference on Data Engineering) 2011, pages 972–983, IEEE Computer Society, 2011
- K. Karanasos, S. Zoupanos. *Viewing a World of Annotations through AnnoVIP*. ICDE (IEEE's International Conference on Data Engineering) 2010, pages 1133–1136. IEEE Computer Society, 2010 and BDA (Bases de Données Avancées) 2010 - software demonstration
- I. Manolescu, S. Zoupanos. *Materialized views for P2P XML warehousing*. BDA (Bases de Données Avancées) 2009
- S. Abiteboul, T. Allard, P. Chatalic, G. Gardarin, A. Ghitescu, F. Goasdoué, I. Manolescu, B. Nguyen, M. Ouazara, A. Somani, N. Travers, G. Vasile, S. Zoupanos. *WebContent: Efficient P2P Warehousing of Web Data*. VLDB (Very Large Data Base Endowment Conference) 2008 - software demonstration, PVLDB, 1(2):1428–1431, 2008
- S. Abiteboul, I. Manolescu, S. Zoupanos. *OptimAX: Optimizing Distributed ActiveXML Applications*. ICWE (International Conference on Web Engineering) 2008, pages 299–310, 2008 and BDA (Bases de Données Avancées) 2008

- S. Abiteboul, I. Manolescu, S. Zoupanos. *OptimAX: efficient support for data-intensive mash-ups*. ICDE (IEEE's International Conference on Data) 2008 - software demonstration, pages 1564–1567, 2008
- S. Abiteboul, I. Manolescu, S. Zoupanos. *OptimAX: optimizing distributed continuous queries*. BDA (Bases de Données Avancées) 2007 - software demonstration

Workshops

- L. Talirz, A. V. Yakutovich, S. P. Huber, M. Uhrin, S. Zoupanos, L. Kahle, C. Johnston, N. Mounet, R. Häuselmann, D. Gresch, T. Müller, A. Cepellotti, F. Gargiulo, S. Kumbhar, E. Passaro, M. Borelli, A. Merkys, O. Schütt, B. Smit, D. Passerone, C. A. Pignedoli, B. Kozinsky, J. VandeVondele, T. Schulthess, N. Marzari, G. Pizzi. *The AiiDA Ecosystem for Computational Materials Science*. DACOMSIN 2019 (Data and Computation for Materials Science and Innovation - workshop in conjunction with DAMDID 2019)
- S. Zoupanos, M. Uhrin, S. P. Huber, R. A. Häuselmann, L. Kahle, N. Mounet, D. Gresch, S. Kumbhar, T. Müller, L. Talirz, J. Boullier, A. Cepellotti, F. Gargiulo, A. Merkys, B. Kozinsky, N. Marzari, G. Pizzi. *The high-throughput AiiDA platform: Recent developments*. COMDI (MARVEL NCCR's international workshop on conceptual and methodological advances underlying the computational design and discovery of novel materials) 2018 - poster
- B. Nguyen, S. Zoupanos. *The WebContent XML Store*. Sources Ouvertes et Services 2010 (workshop in conjunction with RFIA 2010) - short paper
- I. Manolescu, S. Zoupanos. *XML materialized views in P2P networks*. Database Technologies for Handling XML Information on the Web (DataX) 2009, IEEE 2019, (workshop in conjunction with EDBT 2009 & ICDT 2009)

Theses

- Ph.D. thesis: S. Zoupanos. *Efficient peer-to-peer data management*, 2009
- M.Sc. thesis: A Delis, S. Zoupanos. *Optimizing queries using materialized views*, 2006
- B.Sc. thesis: Y. Ioannidis, A. Bakogiannis, S. Zoupanos. *Performance Measuring Tool for Database Systems*, 2004

Further publications

- K. Karanasos, A. Katsifodimos, I. Manolescu, S. Zoupanos. *The ViP2P Platform: XML Views in P2P*. Inria research report, November 2011 (arXiv:1112.2610 [cs.DB])
- I. Manolescu, L. Afanasiev, A. Arion, J. Dittrich, S. Manegold, N. Polyzotis, K. Schnaitter, P. Senellart, S. Zoupanos, D. Shasha. *The Repeatability Experiment of SIGMOD 2008*. SIGMOD (ACM's Special Interest Group on Management Of Data) Record, 37(1):39–45, March 2008

INVITED TALKS - PRESENTATIONS

In addition to the presentation of the published research work at the corresponding venues, the following invited talks were given:

- *Managing computational materials science in the high-throughput era*, Jülich Research Centre, Germany, 12/2018
- *Managing computational materials science in the high-throughput era*, Athens Research Center, Greece, 11/2018
- *Managing computational materials science in the high-throughput era*, University of São Paulo, Brazil, 3/2018
- *Overview of the latest AiiDA developments*, EPFL, Switzerland, 2/2018
- *Digging out knowledge and serving it too!*, CWI, Netherlands, 7/2012
- *Digging out knowledge and serving it too!*, Université Paris 6, France, 4/2012
- *Materialized views for P2P XML warehousing and perspectives*, Université Paris Dauphine, France, 3/2011
- *Materialized views for P2P XML warehousing and perspectives*, Université Paris-Saclay, France, 3/2011
- *Materialized views for P2P XML warehousing and perspectives*, Université de Versailles, France, 3/2011
- *Views in Peer-to-peer and ActiveXML Optimizer*, Max-Planck-Institut für Informatik, Germany, 5/2010
- *Views in Peer-to-peer and ActiveXML Optimizer*, Politecnico di Milano, Italy, 3/2010

Furthermore, talks on the AiiDA platform were given in 6 AiiDA workshops in Trieste, Bologna and Lausanne (2016-2018).

OTHER ACTIVITIES

- MARVEL (<http://nccr-marvel.ch>): participating in the development of a platform, preparing reports, participating in the project's workshops
- CoherentPaaS (<http://coherentpaas.eu>): preparing and reviewing reports, participating in the project's workshops
- LAWA (<http://www.lawa-project.eu>): preparing reports, representing Max-Planck to conference calls, participating in workshops, carrying out research within the project's domain
- Views in P2P (<http://vip2p.saclay.inria.fr>), research project within Codex (ANR grant DEFIS 2009-2012)
- Interdeposit certification for ViP2P from the Agency for the Protection of Programs (APP). June 2011
- Demonstration of the system ViP2P in the BDA (Bases de Données Avancées) 2010 summer school
- Journal reviewer: TOIT (ACM's Transactions on Internet Technology), IJMSO (International Journal of Metadata, Semantics and Ontologies). External reviewer: SIGMOD (ACM's Special Interest Group on Management of Data Conference) 2009, WWW (World Wide Web Conference) 2009, ICDE (IEEE's International Conference on Data Engineering) 2008, BDA (Bases de Données Avancées) 2007
- SIGMOD (ACM's Special Interest Group on Management Of Data) 2008 experimental repeatability committee member

LANGUAGE SKILLS

- Greek (native speaker)
- English (proficient)
- French (advanced)