Curriculum Vitae

Charalampos S. Nikolaou

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Personal Information

First Name	Charalampos
Last Name	Nikolaou
Father's Name	Stylianos
Date of Birth	May 15, 1985
Place of Birth	Athens, Greece
Nationality	Hellenic
Marital Status	Single
Military Service	Unfulfilled

Languages

Greek	Fluent (mother tongue)
English	Cambridge First Certificate in English

Education

2009-present **Ph.D. Candidate**, *University of Athens, Department of Informatics & Telecommunications.*

Title: Query evaluation on spatial and temporal RDF databases in Semantic Web

Supervisor: Manolis Koubarakis

Committee Members: Vassilis Christophides and Philippe Rigaux

2007-2010 **M.Sc. in Computer Systems Technology**, *University of Athens, Department of Informatics & Telecommunications.*

GPA: 9.18 out of 10.0

Master Thesis: Keyword search in RDF databases

Supervisor: Manolis Koubarakis

2003-2007 **Ptychion (4-year Bachelor) in Computer Science**, *University of Athens, Department of Informatics & Telecommunications*.

GPA: 8.33 out of 10.0

Undergraduate Thesis: An implementation of LibraRing architecture using the FreePastry system

Supervisor: Manolis Koubarakis

Employment Experience

Sept 2010-Sept 2013 **Research Assistant/Developer**, *Department of Informatics & Telecommunications*, University of Athens.

Working on the European project "TELEIOS: Virtual Observatory Infrastructure for Earth Observation Data".
Employer: Manolis Koubarakis
Project Webpage: http://www.earthobservatory.eu/

Sept 2008-Sept 2010 **Research Assistant/Developer**, *Department of Informatics & Telecommunications*, University of Athens.

Design and develop software components for the European project "Papyrus: Cultural and historical digital libraries dynamically mined from news archives".
Employer: Ioannis Ioannidis
Project Webpage: http://www.ict-papyrus.eu/

Aug 2007-present **Computer Software Developer**.

Working as an independent developer.

Mar 2007-Feb 2008 **Web Developer**, *Geoset LTD.*, Athens, Greece.

Designed and developed a web application for the Nisyros Island borough (PHP, ArcGIS Server).
Designed and developed a web application for the Anogia borough of Crete Island (PHP, MySQL, MapServer).
Employer: Michalis Salachoris
Geoset LTD. Webpage: http://www.geoset.gr/

Feb 2007-Sep 2007 **Developer**, *U.E.H.R (Institute of Urban Environment & Human Resources)*, Panteion University, Athens.

Designed and developed web and geographic information system applications (JSP, PHP, MapServer, MySQL, MsSQL Server, ArcIMS, ArcSDE, Joomla, etc.).
During this tenure I participated in the following EU funded projects:

1. ESPON: European Spatial Planning Observation Network.
   Project Webpage: http://www.espon.eu/

2. SIMCODE: Spatial Impacts of Multimodal Corridor Development in Gateway Areas, involving Italy - Greece - Turkey.

3. SEMSON: South Eastern Mediterannean Spatial Observatory Network.

4. ARTEMIS: Achieving Reinforcement in Training of Employees and Managing Innovation in South - Eastern Europe.

2005 **Instructor**, *Ministry of National Education and Religious Affairs*, Athens, Greece.

Trained high school teachers on the usage of Microsoft Office Suite (Word, Excel, PowerPoint) and Internet Explorer.

Scientific Activity

2008-present Member of the **Management of Data, Information & Knowledge Group (MaDgIK)**.

Webpage: http://www.madgik.di.uoa.gr/

Academic Members

Dimitrios Gunopulos, Alex Delis, Ioannis Ioannidis, Manolis Koubarakis, Mike Hatzopoulos

Scientific Interests

Databases

- ○ Database Theory
- ○ Logic in Databases
- ○ Constraint Databases
- ○ Query Languages
- ○ Computational Complexity
- ○ Data Integration and Data Exchange
- ○ Keyword Search

Knowledge
Representation &
Reasoning

- ○ Data models and Query Languages
- ○ Temporal and Spatial Reasoning
- ○ First-Order Logic

Semantic Web

- ○ RDF, SPARQL, OWL, Description Logics
- ○ Temporal and Spatial extensions of RDF
- ○ Keyword Search in RDF Databases (and semi-structured data in general)
- ○ Linked-data

Publications

Journals

[J2] K. Kyzirakos, M. Karpathiotakis, G. Garbis, **C. Nikolaou**, K. Bereta, I. Papoutsis, T. Herekakis, D. Michail, M. Koubarakis, and C. Kontoes. Wildfire monitoring using satellite images, ontologies and linked geospatial data. *Web Semantics: Science, Services and Agents on the World Wide Web*, 24(0):18–26, 2014. The Semantic Web Challenge 2012.

[J1] Kostis Kyzirakos, Stefan Manegold, **Charalampos Nikolaou**, and Manolis Koubarakis. Building virtual earth observatories using scientific database and semantic web technologies. *ERCIM News*, 2014(96), 2014.

Conferences

[C9] **Charalampos Nikolaou** and Manolis Koubarakis. Fast consistency checking of very large real-world RCC-8 constraint networks using graph partitioning. In *Proceedings of the 28th AAAI Conference on Artificial Intelligence*, AAAI '14, 2014.

[C8] Stella Giannakopoulou, **Charalampos Nikolaou**, and Manolis Koubarakis. A reasoner for the RCC-5 and RCC-8 calculi extended with constants. In *Proceedings of the 28th AAAI Conference on Artificial Intelligence*, AAAI '14, 2014.

[C7] **C. Nikolaou**, K. Kyzirakos, K. Bereta, K. Dogani, S. Giannakopoulou, P. Smeros, G. Garbis, M. Koubarakis, D. E. Molina, O. C. Dumitru, G. Schwarz, and M. Datcu. Improving knowledge discovery from synthetic

aperture radar images using the linked open data cloud and Sextant. In *Informal Proceedings of the Image Information Mining Conference: The Sentinels Era (ESA-EUSC-JRC 2014)*, 2014.

[C6]   **Charalampos Nikolaou** and Manolis Koubarakis. Incomplete Information in RDF. In *Proceedings of the 8th International Conference on Web Reasoning and Rule Systems*, RR '13, pages 138–152, 2013.

[C5]   M. Koubarakis, C. Kontoes, S. Manegold, M. Karpathiotakis, K. Kyzirakos, K. Bereta, G. Garbis, **C. Nikolaou**, D. Michail, I. Papoutsis, T. Herekakis, M. Ivanova, Y. Zhang, H. Pirk, M. Kersten, K. Dogani, S. Giannakopoulou, and P. Smeros. Real-time wildfire monitoring using scientific database and linked data technologies. In *Proceedings of the 16th International Conference on Extending Database Technology*, EDBT '13, pages 649–660, 2013.

[C4]   Manolis Koubarakis, Manos Karpathiotakis, Kostis Kyzirakos, **Charalampos Nikolaou**, Stavros Vassos, George Garbis, Michael Sioutis, Konstantina Bereta, Stefan Manegold, Martin L. Kersten, Milena Ivanova, Holger Pirk, Ying Zhang, Charalambos Kontoes, Ioannis Papoutsis, Themistoklis Herekakis, Dimitris Mihail, Mihai Datcu, Gottfried Schwarz, Octavian Dumitru, Daniela Espinoza-Molina, Katrin Molch, Ugo Di Giammatteo, Manuela Sagona, Sergio Perelli, Eva Klien, Thorsten Reitz, and Robert Gregor. Building Virtual Earth Observatories Using Ontologies and Linked Geospatial Data. In *Proceedings of the 7th International Conference on Web Reasoning and Rule Systems*, RR '12, pages 229–233, 2012.

[C3]   M. Koubarakis, M. Sioutis, K. Kyzirakos, M. Karpathiotakis, **C. Nikolaou**, S.Vassos, G. Garbis, K. Bereta, M. Datcu, G. Schwarz, O.C. Dumitru, D.E. Molina, and K. Molch. Building Virtual Earth Observatories using Ontologies, Linked Geospatial Data and Knowledge Discovery Algorithms. In *Informal Proceedings of the Image Information Mining Conference (ESA-EUSC-JRC 2012)*, 2012.

[C2]   M. Koubarakis, K. Kyzirakos, M. Karpathiotakis, **C. Nikolaou**, S. Vassos, G. Garbis, M. Sioutis, K. Bereta, C. Kontoes, I. Papoutsis, T. Herekakis, D. Michail, S. Manegold, M. Kersten, M. Ivanova, H. Pirk, Y. Zhang, M. Datcu, G. Schwarz, O. C. Dumitru, D. E. Molina, K. Molch, U. D. Giammatteo, M. Sagona, S. Perelli, T. Reitz, E. Klien, and R. Gregor. Building remote sensing applications using scientific database and semantic web technologies. In *Informal Proceedings of the Image Information Mining Conference (ESA-EUSC-JRC 2012)*, 2012.

[C1]   Manolis Koubarakis, Michael Sioutis, George Garbis, Manos Karpathiotakis, Kostis Kyzirakos, **Charalampos Nikolaou**, Konstantina Bereta, Stavros Vassos, Corneliu Octavian Dumitru, Daniela Espinoza-Molina, Katrin Molch, Gottfried Schwarz, and Mihai Datcu. Building Virtual Earth Observatories Using Ontologies, Linked Geospatial Data and Knowledge Discovery Algorithms. In *OTM Coonferences (2)*, pages 932–949, 2012.

Workshops

[W5]   Manolis Koubarakis, Kostis Kyzirakos, **Charalampos Nikolaou**, George Garbis, Konstantina Bereta, Panayiotis Smeros, Stella Gianakopoulou, Kallirroi Dogani, Maria Karpathiotaki, and Ioannis Vlachopoulos. Linked Earth Observation Data: The Projects TELEIOS and LEO. In *Workshop on Linking Geospatial Data*, 2014.

[W4]   **Charalampos Nikolaou** and Manolis Koubarakis. Querying Linked Geospatial Data with Incomplete Information. In *Proceedings of the 5th Terra Cognita Workshop on Foundations, Technologies and Applications of the Geospatial Web*, pages 51–61, 2012.

[W3]   C. Kontoes, I. Keramitsoglou, I. Papoutsis, T. Herekakis, D. Michail, P. Xofis, M. Koubarakis, K. Kyzirakos, M. Karpathiotakis, **C. Nikolaou**, M. Sioutis, G. Garbis, S. Vassos, S. Manegold, M. Kersten, H. Pirk, and M. Ivanova. Operational wildfire monitoring and disaster management support using state-of-the-art EO and information technologies. In *Proceedings of the 2nd International Workshop on Earth Observation and Remote Sensing Applications*, EORSA '12, pages 196–200, 2012.

[W2]   M. Koubarakis, K. Kyzirakos, M. Karpathiotakis, **C. Nikolaou**, M. Sioutis, S. Vassos, D. Michail, T. Herekakis, C. Kontoes, and Papoutsis I. Challenges for qualitative spatial reasoning in linked geospatial data. In *Workshop on Benchmarks and Applications of Spatial Reasoning (IJCAI '11)*, pages 33–38, July 2011.

[W1]   M. Platakis, **C. Nikolaou**, V. Katifori, M. Koubarakis, and Y. Ioannidis. Browsing news archives from the perspective of history: The Papyrus Browser historiographical issues view. In *Proceedings of the 11th International Workshop on Image Analysis for Multimedia Interactive Services*, WIAMIS '10, 2010.

Demo papers

[D7] **C. Nikolaou**, K. Kyzirakos, K. Bereta, K. Dogani, S. Giannakopoulou, P. Smeros, G. Garbis, M. Koubarakis, D. E. Molina, O. C. Dumitru, G. Schwarz, and M. Datcu. Big, Linked and Open Data: Applications in the German Aerospace Center. In *Extended Semantic Web Conference (Satellite Events)*, ESWC '14, 2014.

[D6] Konstantina Bereta, **Charalampos Nikolaou**, Manos Karpathiotakis, Kostis Kyzirakos, and Manolis Koubarakis. SexTant: Visualizing Time-Evolving Linked Geospatial Data. In *Proceedings of the 12th International Semantic Web Conference (Posters & Demos)*, ISWC '13, pages 177–180, 2013.

[D5] Kostis Kyzirakos, Manos Karpathiotakis, Konstantina Bereta, George Garbis, **Charalampos Nikolaou**, Panayiotis Smeros, Stella Giannakopoulou, Kallirroi Dogani, and Manolis Koubarakis. The Spatiotemporal RDF Store Strabon. In *Proceedings of the 13th International Conference on Advances in Spatial and Temporal Databases*, SSTD '13, pages 496–500, 2013.

[D4] **Charalampos Nikolaou**, Kallirroi Dogani, Kostis Kyzirakos, and Manolis Koubarakis. Sextant: Browsing and Mapping the Ocean of Linked Geospatial Data. In *Extended Semantic Web Conference (Satellite Events)*, ESWC '13, pages 209–213, 2013. Best demo award.

[D3] Kostis Kyzirakos, Manos Karpathiotakis, George Garbis, **Charalampos Nikolaou**, Konstantina Bereta, Michael Sioutis, Ioannis Papoutsis, Themistoklis Herekakis, Dimitrios Michail, Manolis Koubarakis, and Charalambos Kontoes. Real time fire monitoring using semantic web and linked data technologies. In *International Semantic Web Conference (Posters & Demos)*, 2012.

[D2] M. Koubarakis, K. Kyzirakos, M. Karpathiotakis, **C. Nikolaou**, S. Vassos, G. Garbis, M. Sioutis, K. Bereta, D. Michail, C. Kontoes, I. Papoutsis, T. Herekakis, S. Manegold, M. Kersten, M. Ivanova, H. Pirk, Y. Zhang, M. Datcu, G. Schwarz, O. C. Dumitru, D. E. Molina, K. Molch, U. D. Giammatteo, M. Sagona, S. Perelli, T. Reitz, E. Klien, and R. Gregor. TELEIOS: A Database-Powered Virtual Earth Observatory. *Proceedings of the VLDB Endowment (PVLDB)*, 5(12):2010–2013, 2012.

[D1] A. Katifori, **C. Nikolaou**, M. Platakis, Y. Ioannidis, A. Tympas, M. Koubarakis, N. Sarris, V. Tountopoulos, E. Tzoannos, S. Bykau, N. Kiyavitskaya, C. Tsinaraki, and Y. Velegrakis. The Papyrus digital library: Discovering history in the news. In *Proceedings of the 15th International Conference on Theory and Practice of Digital Libraries: Research and Advanced Technology for Digital Libraries*, TPDL '11, pages 465–468, 2011.

Surveys

[S1] Manolis Koubarakis, Manos Karpathiotakis, Kostis Kyzirakos, **Charalampos Nikolaou**, and Michael Sioutis. Data Models and Query Languages for Linked Geospatial Data. In Thomas Eiter and Thomas Krennwallner, editors, *Reasoning Web. Semantic Technologies for Advanced Query Answering*, volume 7487 of *Lecture Notes in Computer Science*, pages 290–328. Springer Berlin / Heidelberg, 2012.

Vision/Challenge papers

[V1] **Charalampos Nikolaou** and Manolis Koubarakis. Querying incomplete geospatial information in RDF. In *Proceedings of the 13th International Conference on Advances in Spatial and Temporal Databases*, SSTD '13, pages 447–450, 2013.

Contests

[O1] Kostis Kyzirakos, Manos Karpathiotakis, George Garbis, **Charalampos Nikolaou**, Konstantina Bereta, Ioannis Papoutsis, Themistoklis Herekakis, Dimitrios Michail, Manolis Koubarakis, and Charalambos Kontoes. Wildfire monitoring using satellite images, ontologies and linked geospatial data. In 10th *Semantic Web Challenge (co-located with the 11th International Semantic Web Conference)*, 2012. Won the third place.

Theses

[T2] **Charalampos Nikolaou**. Keyword search in RDF databases. Master's thesis, Department of Informatics & Telecommunications, National Kapodistrian University of Athens, November 2010.

[T1] **Charalampos Nikolaou**. An implementation of LibraRing architecture using the FreePastry system. Undergraduate thesis, Department of Informatics & Telecommunications, National Kapodistrian University of Athens, September 2007.

Teaching Experience

Academic

2007–2012 **Teaching Assistant**, *Department of Informatics & Telecommunications*, National & Kapodistrian University of Athens.

- ○ Knowledge Technologies (winter 2012)
  Instructor: Manolis Koubarakis

- ○ Artificial Intelligence (winter 2007, 2008, 2010, 2011)
  Instructor: Manolis Koubarakis

- ○ Artificial Intelligence II (spring 2011)
  Instructor: Manolis Koubarakis

- ○ Compilers (spring 2008, 2009, 2010)
  Instructor: Manolis Koubarakis

Computer Skills

Programming

System	Java, C, C++ , Assembly	Logic	Prolog
Web	JSP, Servlets, J2EE, PHP, JavaScript, AJAX, HTML, CSS	Graphics	OpenGL
Script	Bash/Bourne, CShell, Awk, Sed, Unix Filters (like grep)	IDEs	IBM Eclipse, NetBeans, Visual Studio, CodeBlocks

Databases

Database Management Systems	MySQL, MsSQL, PostgreSQL, PostGIS, SQLite, MonetDB	Other	SQL, Database Design/Administration, ODBC/JDBC

Semantic Web Technologies

Data Models	RDF, OWL	Query Languages	SPARQL, SeRQL, RQL, GeoSPARQL

Miscellaneous

Geographic Information Systems	ArcIMS, ArcSDE, ArcGIS, MapServer	Content Management Systems	Drupal, Joomla
Servers	Apache, Tomcat	Graphics	GIMP, Adobe Photoshop
Scientific Tools	Matlab, Gnuplot		

Operating Systems

Open Source	Unix, Linux (Ubuntu, Debian, Fedora, CentOS, SUSE, Mandriva, Redhat), Solaris	Proprietary	Microsoft Windows (95, 98, NT, Me, 2000, XP, Vista, 7), Mac OS X (Leopard, Snow Leopard)

Office Automation

TEX, LATEX, X$_Ǝ$TEX, OpenOffice, LibreOffice, Microsoft Office

Seminars

2012 **Reasoning Web Summer School**, *Vienna*, Austria.

Organizing Committee: Grigoris Antoniou (FORTH, Crete), Abraham Bernstein (U Zuerich), François Bry (U Munich), Thomas Eiter (TU Vienna, chair), Birte Glimm (U Ulm), Claudio Gutierrez (UC Santiago), Axel Polleres (Siemens)

Local Organization: Thomas Eiter (TU Vienna), Thomas Krennwallner (TU Vienna)

Website: http://www.kr.tuwien.ac.at/events/rw2012/

2012 **Semantic Data Management Dagstuhl Seminar**, *Dagstuhl*, Germany.

Organizing Committee: Karl Aberer, Grigoris Antoniou, Oscar Corcho, Rudi Studer

Coordinators: Elena Simperl

Website: http://www.dagstuhl.de/12171/

Commemorative Photos: http://www.dagstuhl.de/Gruppenbilder/12171.0.B.JPG
http://www.dagstuhl.de/Gruppenbilder/12171.1.B.JPG

2009 **Seventh Summer School on Ontology Engineering and the Semantic Web (SSSW'09)**, *Cercedilla (near Madrid)*, Spain.

Organizing Committee: Enrico Motta, Asun Goméz-Pérez, Mathieu d'Aquin, Oscar Corcho

Invited Speakers: Philipp Cimiano, Stefan Decker, Mark Greaves, Tom Heath, Peter Mika

Tutors: Mathieu d'Aquin, Sean Bechhofer, Fabio Ciravegna, Jérôme Euzenat, Aldo Gangemi, Asun Goméz-Pérez, Enrico Motta, Valentina Presutti

Website: http://sssw.org/2009/

Open Source Community

2013 **Sextant**.
Sextant is a web-based system for the visualization and exploration of time-evolving linked geospatial data and the creation, sharing, and collaborative editing of 'temporally-enriched' thematic maps which are produced by combining different sources of such data and other geospatial information available in standard OGC file formats (e.g., KML).

Homepage: http://sextant.di.uoa.gr/

Authors: Kallirroi Dogani, Konstantina Bereta, Manos Karpathiotakis, Kostis Kyzirakos, Charalampos Nikolaou, Manolis Koubarakis

2012 **Strabon**.
Strabon is a fully implemented semantic geospatial database system that can be used to store linked geospatial data expressed in RDF and query them using an extension of SPARQL, stSPARQL, and GeoSPARQL. Strabon supports spatial selections, spatial joins, a rich set of spatial functions similar to those offered by geospatial relational database systems, support for multiple Coordinate Reference Systems and widely used serializations for geometric objects such as WKT and GML. Strabon is built on top of the well-known RDF store Sesame and extends Sesame's components to be able to manage thematic and spatial data that are stored in PostGIS or MonetDB.

Homepage: http://strabon.di.uoa.gr/

Authors: Manos Karpathiotakis, Kostis Kyzirakos, George Garbis, Konstantina Bereta, Charalampos Nikolaou, Stella Gianakopoulou, Panayiotis Smeros, Kallirroi Dogani, Manolis Koubarakis

2007 **Web Vulnerability Scanner**.

Participated in the development of an open source Web Vulnerability Scanner. The scanner is written in the programming language C and it is in beta stage.

An article presenting the Web Vulnerability Scanner has been published in the Greek Linux Format magazine, Issue of July - August 2008.

Authors: Konstantinos Papapanagiotou, Miltiades Kandias, Alexios Kotsifakos

Title: OWASP: Security in Web Applications

Article URL: http://vlm1.uta.edu/~akotsif/ELF22-OWASP.pdf

2005 **Internationalization and Localization**.

Participated in the internationalization and localization process of the Ubuntu distribution. In particular, I was involved in the translation (from English to Greek) of the SoundJuicer application of the GNOME Desktop.
SoundJuicer: http://live.gnome.org/SoundJuicer/
GNOME Desktop: http://www.gnome.org/

Honors, Awards, and Scholarships

2013 **Best demo award (ESWC'13)**.

Bestowed by the Extended Semantic Web Conference 2013 for the demo paper with title "Sextant: Browsing and Mapping the Ocean of Linked Geospatial Data".

2012 **Semantic Web Challenge**.

Awarded third place by the committee of the Semantic Web Challenge 2012 for our application with title "Wildfire Monitoring Using Satellite Images, Ontologies and Linked Geospatial Data".

2009 **Pandia Ralli Award**.

This award is bestowed by the Pandia Ralli foundation on any student of the National & Kapodistrian University of Athens that stands out for his/her character and progress in the judgement of the Rector and Senate.

2008 **Award of Performance**.

This award is bestowed by the National & Kapodistrian University of Athens for my postgraduate studies at the Department of Informatics & Telecommunications in the field of Computer Systems Technology with grade 9.18 (out of 10.0) for the academic year 2007–2008.

2008 **Pinocci Award**.

This award is bestowed by the Elais - Unilever Association Company for my postgraduate studies at the Department of Informatics & Telecommunications, at the National & Kapodistrian University of Athens.

2007 **Pinocci Award**.

This award is bestowed by the Elais - Unilever Association Company for my undergratuate studies at the Department of Informatics & Telecommunications, at the National & Kapodistrian University of Athens.

2004 **Scholarship**.

This scholarship is bestowed by the State Scholarship Foundation of Greece (SSF) for my undergraduate studies at the Department of Informatics & Telecommunications, at the National & Kapodistrian University of Athens.

2003 **Scholarship**.

This scholarship is bestowed by the State Scholarship Foundation of Greece (SSF) for my undergraduate studies at the Department of Informatics & Telecommunications, at the National & Kapodistrian University of Athens.

Interests

Music Studies in piano, classic and Jazz guitar. Listening to a lot of music (mostly genres around Jazz, Rock, and Blues) and going to concerts.

Cinema / Theater Enjoy independent films. Hardly ever will I be satisfied by a futuristic film/performance or especially by a pioneering/postmodern theatrical performance.

Reading	Mostly novels and essays.
Strolling	Anywhere at the center of Athens and abroad.
Biking	Ride a bike alone or with friends.

References

Letters of recommendation are available upon request.

Last Updated

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