

# CURRICULUM VITAE: Manos Karpathiotakis

DATE OF BIRTH: 15/12/1986

NATIONALITY: Greek

LANGUAGES: Greek (Native), English (Fluently)

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## Education

- **09-2012 – Present: Doctoral Student in Computer, communication and information sciences, DIAS lab, École Polytechnique Fédérale de Lausanne, Switzerland**
  - **09/2008 – 04/2011: MSc (2-year curriculum) in Advanced Information Systems, Department of Informatics and Telecommunications, National Kapodistrian University of Athens, Greece**  
Grade: 9.34 / 10  
Thesis: Design and Implementation of a Registry for the Semantic Sensor Web
  - **09/2004 – 06/2008: Bachelor (4-year curriculum) in Informatics and Telecommunications, Department of Informatics and Telecommunications, National Kapodistrian University of Athens, Greece**  
Grade: 8.35 / 10  
Graduation Rank: 3<sup>rd</sup> / 52  
Thesis: e-Government with the utilization of GIS technologies
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## Research Interests:

- Data Management, Data Analytics, Query Processing, Indexing Structures
  - Semantic Web, Linked Data, Ontologies
  - Geographic Information Systems (GIS), Spatial Databases
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## Honors:

- Awarded 3<sup>rd</sup> place in Semantic Web Challenge 2012, held in conjunction with ISWC, Boston, MA, November 2012
  - EPFL I&C Fellowship Student, 2012-2013
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## Professional Experience

**10/2013 – Now:** Research Assistant in the context of the **Human Brain Project** (<https://www.humanbrainproject.eu/>)

**09/2011 – 09/2012:** Implementation team coordinator, Research Assistant, Scientific Programmer in the context of the European FP7 Program **TELEIOS** (<http://www.earthobservatory.eu/>)

**06/2009 – 08/2011:** Scientific Programmer, Research Assistant in the context of the European FP7 Program **SensorGrid4Env** (<http://sensorgrid4env.eu/>)

## Scientific Publications

### Conferences

- A. J. G. Gray, R. Garcia-Castro, K. Kyzirakos, **M. Karpathiotakis**, J.-P. Calbimonte, K. Page, J. Sadler, A. Frazer, I. Galpin, A. Fernandes, N. W. Paton, O. Corcho, M. Koubarakis, D. De Roure, K. Martinez and A. Gomez-Perez. “A Semantically Enabled Service Architecture for Mashups over Streaming and Stored Data”. In Proceedings of the 8th Extended Semantic Web Conference (ESWC 2011)
- M. Koubarakis, M. Sioutis, K. Kyzirakos, **M. Karpathiotakis**, C. Nikolaou, S. Vassos, G. Garbis, K. Bereta, O. C. Dumitru, D. E. Molina, K. Molch, G. Schwarz, and M. Datcu, Building Virtual Earth Observatories using Ontologies, Linked Geospatial Data and Knowledge Discovery Algorithms, In *ODBASE 2012*, Roma, Italy, September 2012
- K. Kyzirakos, **M. Karpathiotakis** and M. Koubarakis. “Strabon, a Semantic Geospatial DBMS”. In the *11th International Semantic Web Conference (ISWC 2012)*, Boston, USA, November 11<sup>th</sup>-15<sup>th</sup>, 2012
- K. Kyzirakos, **M. Karpathiotakis**, K. Bereta, G. Garbis, C. Nikolaou, P. Smeros, S. Giannakopoulou, K. Dogani, M. Koubarakis: The Spatiotemporal RDF Store Strabon. SSTD 2013
- **M. Karpathiotakis**, M. Branco, I. Alagiannis, A. Ailamaki: Adaptive Query Processing on RAW Data. Submitted to a conference

### Journals

- A. J. G. Gray, J. Sadler, O. Kit, K. Kyzirakos, **M. Karpathiotakis**, J.-P. Calbimonte, K. Page, R. García-Castro, A. Frazer, I. Galpin, A. Fernandes, N.W. Paton, O. Corcho, M. Koubarakis, D. De Roure, K. Martinez and A. Gómez-Pérez. “A Semantic Sensor Web for Environmental Decision Support Applications” (Sensors 2011)

### Workshops

- M. Koubarakis, K. Kyzirakos, **M. Karpathiotakis**, C. Nikolaou, M. Sioutis, S. Vassos, D. Michail, T. Herekakis, C. Kontoes and I. Papoutsis. “Challenges for Qualitative Spatial Reasoning in Linked Geospatial Data”. In Proceedings of IJCAI 2011 Workshop on Benchmarks and Applications of Spatial Reasoning. Barcelona, Spain, July 17, 2011.
- K. Kyzirakos, **M. Karpathiotakis** and M. Koubarakis. “Developing Registries for the Semantic Sensor Web using stRDF and stSPARQL” (short paper). 3rd International workshop on Semantic Sensor Networks 2010, in conjunction with ISWC 2010, November 2010, Shanghai, China.
- C. Kontoes, I. Keramitsoglou, I. Papoutsis, D. Michail, T. Herekakis, P. Xofis, M. Koubarakis, K. Kyzirakos, **M. Karpathiotakis**, C. Nikolaou, M. Sioutis, G. Garbis, S. Vassos, S. Manegold, M. Kersten, H. Pirk, M. Ivanova, Operational Wildfire Monitoring and Disaster Management Support Using State-of-the-art EO and Information Technologies, In *2<sup>nd</sup> International Workshop on Earth Observation and Remote Sensing Applications (EORSA 2012)*, Shangai, China, June 2012

## Demos

- 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. Espinoza Molina, K. Molch, U. Di Giammatteo, M. Sagona, S. Perelli, T. Reitz, E. Klien, and R. Gregor. “TELEIOS: A Database-Powered Virtual Earth Observatory”. In *38<sup>th</sup> International Conference on Very Large Databases (VLDB 2012)*, Istanbul, Turkey, 27-31 August 2012
- K. Kyzirakos, **M. Karpathiotakis**, G. Garbis, C. Nikolaou, K. Bereta, M. Sioutis, I. Papoutsis, T. Herekakis, D. Michail, M. Koubarakis and C. Kontoes. “Real Time Fire Monitoring Using Semantic Web and Linked Data Technologies”. In the *11th International Semantic Web Conference (ISWC 2012)*, Boston, USA, November 11<sup>th</sup>-15<sup>th</sup>, 2012
- K. Bereta, C. Nikolaou, **M. Karpathiotakis**, K. Kyzirakos, M. Koubarakis: SexTant: Visualizing Time-Evolving Linked Geospatial Data. In the *International Semantic Web Conference (ISWC 2013)*, Sydney, Australia, October 23, 2013

## Tutorials

- M. Koubarakis, K. Kyzirakos and **M. Karpathiotakis**. “Data models, Query Languages, Implemented Systems and Applications of Linked Geospatial Data”. In *9<sup>th</sup> Extended Semantic Web Conference (ESWC 2012)*, Heraklion, Crete, May 27<sup>th</sup>-31<sup>st</sup>, 2012
- M. Koubarakis, **M. Karpathiotakis**, K. Kyzirakos, C. Nikolaou, and M. Sioutis. “Data Models and Query Languages for Linked Geospatial Data”. In *8<sup>th</sup> Reasoning Web Summer School (RW 2012)*, Austria, Vienna, September 03-08, 2012

## Technical Communications

- M. Koubarakis, **M. Karpathiotakis**, K. Kyzirakos, C. Nikolaou, S. Vassos, G. Garbis, M. Sioutis, K. Bereta, S. Manegold, M. Kersten, M. Ivanova, H. Pirk, Y. Zhang, C. Kontoes, I. Papoutsis, T. Herekakis, D. Mihail, M. Datcu, G. Schwarz, O. Dumitru, D. Molina, K. Molch, U. Giammatteo, M. Sagona, S. Perelli, E. Klien, T. Reitz, and R. Gregor. “Building Virtual Earth Observatories using Ontologies and Linked Geospatial Data”. In *RR 2012*, Vienna, Austria, September 2012

## Challenges / Contests

- 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”. In Semantic Web Challenge 2012, in conjunction with ISWC 2012
  - Awarded 3<sup>rd</sup> place

## Technical Reports

- G. Garbis, K. Mpereta, **M. Karpathiotakis**, K. Kyzirakos, B. Nikolaou, M. Sioutis, S. Vassos, I. Miliaraki, K. Papadaki, and Manolis Koubarakis. “An

implementation of a temporal and spatial extension of RDF and SPARQL on top of MonetDB - phase I". Deliverable D4.1, EU FP7 project TELEIOS.

- **M. Karpathiotakis**, K. Kyzirakos, Z. Kaoudi, M. Koubarakis, Josep Rodriguez and Juanjo Aparicio. Evaluation of the registry services. Deliverable D3.4, EU FP7 project SensorGrid4Env.
  - **M. Karpathiotakis**, K. Kyzirakos, Z. Kaoudi, V. Fisikopoulos, I. Miliaraki, M. Koubarakis, Y. Ioannidis, M. Hatzopoulos and V. Kalogeraki. Implementation and deployment of the registry services. Deliverable D3.3v2, EU FP7 project SensorGrid4Env.
  - K. Kyzirakos, **M. Karpathiotakis** and M. Koubarakis. Implementation and deployment of the registry services. Deliverable D3.3v1, EU FP7 project SensorGrid4Env.
  - K. Kyzirakos, Z. Kaoudi, **M. Karpathiotakis** and M. Koubarakis. Distributed data structures and algorithms for a Semantic Sensor Grid registry. Deliverable D3.2, EU FP7 project SensorGrid4Env.
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## Academic Experience

- 02/2014 – now: Teaching Assistant, Introduction to Database Systems, EPFL
  - 09/2013 – 02/2014: Teaching Assistant, Functional Programming Principles in Scala, EPFL & Coursera
  - 09/2013 – 02/2014: Teaching Assistant, Principles of Reactive Programming, EPFL & Coursera
  - 09/2009 – 09/2012: Teaching Assistant, Knowledge Technologies postgraduate course, Department of Informatics and Telecommunications, National Kapodistrian University of Athens, Greece
  - 02/2010 – 09/2010: Teaching Assistant, Foundation of Databases postgraduate course, Department of Informatics and Telecommunications, National Kapodistrian University of Athens, Greece
  - 09/2008 – 02/2010: Teaching Assistant, Introduction to Programming undergraduate course, Department of Informatics and Telecommunications, National Kapodistrian University of Athens, Greece
  - 09/2008 – 02/2009: Teaching Assistant, Operating Systems undergraduate course, Department of Informatics and Telecommunications, National Kapodistrian University of Athens, Greece
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## Significant previous projects

- Development of the internal structures of a DBMS using C
  - Implementation of a Query Processor and a Query Optimizer for expressions of relational algebra using Java
  - Implementation of a multi-threaded ACID RDBMS using Java
  - Implementation of a recommendation system using Hadoop
  - Implementation of the k-means clustering algorithm over Hadoop
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## **Contact Information**

**Rue Haldimand 7**

**1003 Lausanne**

**Vaud**

**Switzerland**

**Tel: +41786680571**

**Email: [manos.karpathiotakis@epfl.ch](mailto:manos.karpathiotakis@epfl.ch)**

**Page: <http://people.epfl.ch/manos.karpathiotakis>**