

# Marialena Kyriakidi

## Personal Info

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Current Position: Research SWE, Google Research

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## Research Interests

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- Recommender Systems & Personalization
- Machine Learning
- Conversational Systems
- Graph Databases

## Education

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PhD "Universality of Path Algebras for Recommendation Problems", University of Athens, Research Area: Recommender Systems, Graph Databases, Advisor: Yannis Ioannidis

MSc Advanced Information Systems, University of Athens, GPA: 9.18/10, Thesis: "Discovering Trust Paths in Networks", Research Area: Path Algebra, Trust Propagation, Trust Networks, Advisor: Yannis Ioannidis

BSc Computer Science, University of Athens, GPA: 7.64/10, Thesis: "Mining User Activity Logs", Research Area: Data Mining, Personalization, Association Rules Mining, Advisor: Yannis Ioannidis

## Internships

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June 2018 – Sept. 2018: Software Engineer Intern in Google, New York City, New York.

July 2017 – Oct. 2017: Software Engineer Intern in Google, Mountain View, California.

Mar. 2017 – July 2017: *Project title:* "Context-Aware Recommendations Based on Analytics of User Activities", National Institute of Informatics (NII), Tokyo, Japan. *Duties:* Leverage heterogeneous multimedia user-generated data on location-based social platforms for predicting business venues and activities,

*Research Area:* Contextual Recommendations, Machine Learning, Deep Learning, Personalization. *Supervisors:* Yannis Ioannidis, University of Athens, Greece & Yi Yu, National Institute of Informatics, Japan.

## Projects

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- 2017- 2019: EU Project "Cultural Heritage Experiences through Socio-personal interactions and Storytelling-CHESS." *Duties:* Services for personalized, storytelling engine. *Research Area:* Personalization, Recommendations.
- 2017: EU Project "EMOTIVE", *Duties:* Services for personalized, collaborative, emotive, storytelling experiences to visitors of cultural heritage sites. *Research Area:* Personalization, Recommendations.
- 2014 – 2015: Greek Department of Education Project "EICOS", Personalized Cooperative Information Ecosystems, *Duties:* Design of services for contextualization and personalization of information in a dataspace, *Research Area:* Personalization, Contextual Recommendations.
- 2011 – 2013: EU Project "CHESS", Cultural Heritage Experiences through Socio-personal interactions and Storytelling, *Duties:* Design and Implementation of a personalized, storytelling engine, *Research Area:* Personalization, Storytelling.
- 2007 - 2009: EU Project "TELplus", The European Library, *Duties:* Design and Implementation of personalized search in TEL portal, *Research Area:* Personalization, Data Mining.

## Teaching

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- Software Development (2008, 2009, 2010, 2014, 2015), Instructor: Yannis Ioannidis, *Duties:* Head teaching assistant.
- Software Development (2012, 2013), Instructor: Yannis Ioannidis, *Duties:* Supervisor of an undergraduate student team participating in SIGMOD Programming Contest.
- Discrete Mathematics (2013), Instructor: Aggelos Kiayias, *Duties:* Teaching assistant.
- Topics in Database Systems (2012), Instructor: Yannis Ioannidis, *Duties:* Teaching assistant.
- Design and Use of Database Systems (2008, 2011), Instructor: Yannis Ioannidis, *Duties:* Teaching assistant.
- Elements and Style of Technical Speech (2010), Instructor: Yannis Ioannidis, *Duties:* Teaching assistant.
- System Programming (2008), Instructor: Alex Delis, *Duties:* Teaching assistant.
- Operating Systems (2008), Instructor: Alex Delis, *Duties:* Teaching assistant.

## Undergraduate Thesis Supervision Assistance

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S.Kypraiou, "Contextual Recommendations based on Short and Long Term User Profiles", Instructor: Y. Ioannidis, in progress.

P.Kanakakis, "Community Detection Algorithms for Big Data using Exareme", Instructor: Y. Ioannidis, in progress.

T. Lyvisianos, "Machine Learning Algorithms on Streaming Data", Instructor: Y. Ioannidis, in progress (with H. Kllapi).

D. Savva, "Survey and Comparison of Recommender Algorithms", Instructor: Y. Ioannidis, 2014.

G. Tzortzakis, "Personalized Business Recommender for Yelp users", Instructor: Y. Ioannidis, 2014.

## **Publications**

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M.Kyriakidi, G. Koutrika and Y.E. Ioannidis: Recommendations as Graph Explorations. RecSys 2020.

M.Kyriakidi, G. Koutrika and Y.E. Ioannidis: Recommendations for Explorations based on Graphs. ExploreDB 2018 (in conjunction with SIGMOD/PODS 2018).

M.Kyriakidi, K. Stefanidis and Y.E. Ioannidis: On Achieving Diversity In Recommender Systems. ExploreDB 2017 (in conjunction with SIGMOD/PODS 2017).

A. Gogolou, M. Kyriakidi and Y.E. Ioannidis: Data Exploration: A Roll Call of All User-Data Interaction Functionality. ExploreDB 2016, Proceedings of the Third International Workshop on Exploratory Search in Databases and the Web (in conjunction with SIGMOD/PODS 2016): 31-33.

A. Antoniou, A. Katifori, M. Roussou, M. Vayanou, M. Karvounis, M. Kyriakidi, L. Pujol-Tost: Capturing the Visitor Profile for a Personalized Mobile Museum Experience: an Indirect Approach. HAAPIE 2016, Human Aspects in Adaptive and Personalized Interactive Environments Workshop (in conjunction with ACM UMAP 2016).

M. Vayanou, A. Katifori, M. Karvounis, V. Kourtis, M. Kyriakidi, M. Roussou, M. M. Tsangaris, Y. E. Ioannidis, O. Balet, T. Prados, J. Keil, T. Engelke, L. Pujol: Authoring Personalized Interactive Museum Stories. International Conference on Interactive Digital Storytelling (ICIDS) 2014: 37-48.

A. Katifori, M. Karvounis, V. Kourtis, M. Kyriakidi, M. Roussou, M. M. Tsangaris, M. Vayanou, Y. E. Ioannidis, O. Balet, T. Prados, J. Keil, T. Engelke, L. Pujol: CHES: Personalized Storytelling Experiences in Museums. International Conference on Interactive Digital Storytelling (ICIDS) 2014: 232-235.

M. Vayanou, M. Karvounis, A. Katifori, M. Kyriakidi, M. Roussou, Y. E. Ioannidis: The CHES Project: Adaptive Personalized Storytelling Experiences in Museums. UMAP Project Synergy (UMAP ProS) Workshop (in conjunction with UMAP 2014).

L. Pujol, A. Katifori, M. Vayanou, M. Roussou, M. Karvounis, M. Kyriakidi, S. Eleftheratou, Y. E. Ioannidis: From personalization to adaptivity - Creating immersive visits through interactive digital storytelling at the Acropolis Museum. Intelligent Environments (Workshops) 2013: 541-554.

M. Vayanou, M. Karvounis, M. Kyriakidi, V. Katifori, N. Manola, M. Roussou, Y. E. Ioannidis. "Towards Personalized Storytelling for Museum Visits", PersDB 2012, 6th Inter. Workshop on Personalized

Access, Profile Management, and Context Awareness in Databases, August 31, Istanbul, Turkey (in conjunction with the 38th VLDB Conference), 2012.

Y. E. Ioannidis, M. Vayanou, T. Georgiou, K. Iatropoulou, M. Karvounis, V. Katifori, M. Kyriakidi, N. Manola, A. Mouzakidis, L. Stamatogiannakis, M. L. Triantafyllidi. Profiling Attitudes for Personalized Information Provision IEEE Data Eng. Bull. 34(2): 35-40, 2011.

M. Kyriakidi, L. Stamatogiannakis, M. L. Triantafyllidi, M. Vayanou, Y. E. Ioannidis. "A Prototype Personalization System for the European Library Portal". European Conference on Research and Advanced Technology on Digital Libraries (ECDL) 2010: 542- 545 (demo).

M. Kyriakidi, L. Stamatogiannakis, M. L. Triantafyllidi, M. Vayanou, Y. E. Ioannidis. "A Prototype Personalization System for the European Library Portal". Hellenic Data Management Symposium (HDMS), 2010 (demo).

L. Stamatogiannakis, M. L. Triantafyllidi, M. Kyriakidi, M. Vayanou, Y. E. Ioannidis. "madIS: Rapid Workflow Prototyping with UDFs in SQL", HDMS 2010 (demo).

## Technical Skills

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- Programming Paradigms: Procedural, Object Oriented, Declarative
- Programming Languages/Tools: Java, C, C++, Python, Matlab
- Scripting Languages: Bash Shell
- Operating systems: Linux/Ubuntu
- Other: SQL, HTML

## Software Developed

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- CHESS: Co-Developer of personalized, storytelling engine, *Prog. Lang.:* Java.
- TELplus: Co-Developer of personalized search software and contributor in *maDIS*, an open source extensible relational database system (<https://github.com/madgik/madis/>), *Prog. Lang.:* SQL, Python.
- Contributor in *Exareme*, an open source system for elastic large-scale dataflow processing on the cloud (<http://madgik.github.io/exareme/>), *Prog. Lang.:* SQL, Java.
- Topics in DBMSs: Implementation of a personalized, social, movies recommender, *Prog. Lang.:* Awk, Bash shell scripting, MySQL, Java, JSPs & Servlets, HTML & Flash.
- Foundations of DBMSs: Implementation of a query optimizer, *Prog. Lang.:* Java.
- Software Development: Implementation of a single-user DBMS, *Prog. Lang.:* C.
- E-Commerce: Design and implementation of an e-shop. *Prog. :* Java/ Bpel/ RestFul Web Services.

## Languages

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- Greek (Proficient)
- English (Proficient)
- Japanese (Intermediate)

- French (Intermediate)

## **References**

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Available upon request.