

Eleftherios Spyromitros-Xioufis

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EDUCATION

Ph.D. in Computer Science **Apr 2010 - Jun 2016**
School of Informatics, Aristotle University of Thessaloniki, Greece
- Advisor: Professor Ioannis Vlahavas
- Thesis: “Machine Learning Methods for Predicting Multiple Response Variables”

M.Sc. in Information Systems **Sep 2009 - Jan 2011**
School of Informatics, Aristotle University of Thessaloniki, Greece
- Concentrations: Machine Learning and Data Mining
- Thesis: *Dealing with Concept Drift and Class Imbalance in Multi-label Stream Classification*

B.Sc. in Computer Science **Sep 2004 - Jan 2009**
School of Informatics, Aristotle University of Thessaloniki, Greece
- Specialization: Information Systems (emphasis on Artificial Intelligence)
- Thesis: *An Empirical Study on Lazy Multi-label Classification Algorithms*

RESEARCH INTERESTS & PUBLICATIONS

The main research topics I have worked on are: a) *multi-target prediction*, b) *image representation, indexing & search*, c) *diverse image retrieval*, d) *text classification*, e) *content-based image annotation & retrieval*, f) *classification of evolving data streams*, g) *recommender systems*.

I have published > **20 papers** on the above topics - attracting > **950 citations** (according to Google scholar) - including articles in top-tier journals (JMLR, Machine Learning, IEEE TMM) and conferences (IJCAI, ECML PKDD, ICMR).

Below you can find a list of selected publications. For a full, up-to-date list of publications check my Google scholar profile.

SELECTED PUBLICATIONS

E. Spyromitros-Xioufis, G. Tsoumakas, W. Groves, I. Vlahavas
Multi-target regression via input space expansion: treating targets as inputs
Machine Learning, 2016

E. Spyromitros-Xioufis, S. Papadopoulos, A. Popescu, Y. Kompatsiaris
Personalized Privacy-aware Image Classification
ACM ICMR, New York, USA, 2016 (**acceptance rate 16%**)

E. Spyromitros-Xioufis, S. Papadopoulos, Y. Kompatsiaris, G. Tsoumakas, I. Vlahavas
A comprehensive study over VLAD and Product Quantization in large-scale image retrieval
IEEE Transactions on Multimedia, 2014

G. Tsoumakas, E. Spyromitros-Xioufis, A. Vrekou, I. Vlahavas
Multi-target regression via random linear target combinations
ECML PKDD 2014, Nancy, France, 2014 (**acceptance rate 23%**).

E. Spyromitros-Xioufis, M. Spiliopoulou, G. Tsoumakas, I. Vlahavas
Dealing with concept drift and class imbalance in multi-label stream classification
IJCAI 2011, Barcelona, Spain, 2011 (**acceptance rate 17%**)

G. Tsoumakas, E. Spyromitros-Xioufis, J. Vilcek, I. Vlahavas
Mulan: a java library for multi-label learning
Journal of Machine Learning Research, 2011

JOURNAL / CONFERENCE REVIEWER

Journals: JMLR, Machine Learning, IEEE TKDE, CVIU, IEEE TMM, Information Sciences, IEEE TIP, Neurocomputing, Im. Com., ADAC, The R Journal, AUSE

Conferences: ECML PKDD 2014, ACM Multimedia 2015, ACM Multimedia 2016/2017 (PC Member), ICMR 2015/2016/2017, SISAP 2016, ECIR 2017, ESANN 2017

PROFESSIONAL EXPERIENCE

Research Associate **Jan 2012 - now**
Information Technologies Institute - Center for Research and Technology Hellas

- Worked on four EU funded projects (SocialSensor, USEMP, hackAIR and STEP) organizing research efforts, conducting basic research and delivering prototype implementations. Research topics range from large-scale image retrieval to search results diversification, privacy-aware image classification, inference of personal user attributes based on online behavior and air quality estimation from social images.

Web Developer

Jan 2008 - Dec 2011

Undertook the development of e-shops and web portals as a freelancer.

- www.csd.auth.gr, www.greekrocks.com, www.bobgriffis.com

SELECTED PROJECTS

Mulan: is a java library for multi-label learning. One of the main developers of the project. Implemented numerous multi-label classification algorithms and evaluation measures. Extended the library with multi-target regression functionality and methods. Wrote documentation and unit-tests. Work done while at Aristotle University.

SocialSensor: collects, processes, and aggregates big streams of social media data and multimedia to discover trends, events, influencers, and interesting media content. My key contribution was the development of a large-scale image indexing and search framework. Work done while at ITI-CERTH.

USEMP: is an EU-funded project aiming to develop a framework to empower OSN users by enhancing their control over their shared data. My key contribution was the implementation of a [privacy-aware image classification](#) module and a personal user attribute inference module and their integration to the project's web application ([Databait](#)). Work done while at ITI-CERTH.

hackAIR: is an EU-funded project aiming to develop an open technology platform for citizen observatories on air quality. My main responsibility is the development of tools that collect sky images from social media platforms and process them in order to facilitate automatic estimation of air quality. Work done while at ITI-CERTH.

CONTESTS AND AWARDS

I have achieved very good results in several Data Mining contests, receiving distinctions from the Aristotle University in 2011 ([see here](#)) and the Greek Ministry of Education in 2012 ([see here](#)) for some of these achievements. Below is a listing of my best results. More details can be found in the [contests-awards](#) section of my website.

- **MediaEval 2015 - Retrieving Diverse Social Images Task** Oct 2015
Best run in the single-topic category, 2nd run overall
- **MediaEval 2014 - Retrieving Diverse Social Images Task** Oct 2014
Best visual-only run, best visual+textual run, 3rd text-only run
- **WISE 2014** Jul 2014
7th place + Kaggle master badge!
- **MediaEval 2013 - Retrieving Diverse Social Images Task** Oct 2013
Best visual-only run, 3rd run overall
- **JRS 2012** Mar 2012
9th place
- **ImageCLEF 2011 - Photo-annotation** Sep 2011
1st place in concept-based retrieval sub-task.
- **ECML PKDD 2011 Discovery Challenge** Aug 2011
2nd place in cold-start recommendations task + 700 euro prize
- **Data Mining Cup 2011** Jun 2011
7th place + 1000 dollars travel prize
- **ISMIS 2011 Contest on Music Information Retrieval** Mar 2011
1st place in instruments recognition track + 1000 dollars prize

SCHOLARSHIPS AND GRANTS

- **PhD excellence scholarship** Sep 2012
During the academic year 2011-2012 I received a PhD excellence scholarship from the Research Committee of the Aristotle University of Thessaloniki.

- **CLEF scholarship** **Sep 2011**
Sponsored by PetaMedia Network of Excellence, European Science Foundation (ESF). CLEF 2011, Amsterdam, The Netherlands.
- **ECML PKDD conference grant** **Sep 2011**
Sponsored by the Hellenic Artificial Intelligence Society (EETN). ECML PKDD 2011, Athens, Greece.
- **IJCAI scholarship** **July 2011**
Sponsored by the IJCAI Organization and its Artificial Intelligence Journal (AIJ) Division. IJCAI 2011, Barcelona, Spain.
- **Erasmus scholarship** **Oct 2010**
From the Greek State Scholarships Foundation to continue my master's program at the Otto-von-Guericke University of Magdeburg.
- **MLSS scholarship** **Jul 2010**
Sponsored by PASCAL2 Network of Excellence. 2nd Machine Learning bootcamp of the European Network of Excellence PASCAL (Pattern Analysis, Statistical modelling and Computational Learning), Marseille, France.

TEACHING
EXPERIENCE

School of Informatics, Aristotle University of Thessaloniki

Teaching Assistant

Jan 2011 - Dec 2014

- Advance Machine Learning and Knowledge Discovery (postgraduate course)
 - Spring Semester 2011, 2012
- Machine Learning (postgraduate course)
 - Winter Semester 2011, 2012, 2013
- Artificial Intelligence (undergraduate course)
 - Spring Semester 2013, 2014
- Decision Support Theory and Systems (undergraduate course)
 - Winter Semester 2011
- Object Oriented Programming (undergraduate course)
 - Spring Semester 2011

LANGUAGES

Greek (native), English (full professional), German (elementary)

SOFTWARE SKILLS Programming Languages:

- Java (expert), PHP/SQL (good), C/C++/C#/JavaScript/Python (basic)

Data Mining and Statistics Libraries and Tools:

- Weka/Mulan (expert), Matlab/R/SPSS (medium), TensorFlow (basic)

Computer Vision Libraries and Tools:

- BoofCV, OpenCV, ColorDescriptor

Technologies:

- Web services (RESTful web services with Jersey/JAX-RS), NoSQL stores (BerkleyDB), Relational Databases (MySQL)

Productivity Applications:

- T_EX, most common productivity packages (for Windows platforms)

Operating Systems:

- Microsoft Windows family and Linux

REFEREREEES

Dr. Yiannis Kompatsiaris (e-mail: ikom@iti.gr)

- Senior Researcher, ITI-CERTH
- ★ *Dr. Kompatsiaris supervises my work at ITI-CERTH*

Dr. Ioannis Vlahavas (e-mail: vlahavas@csd.auth.gr)

- Professor, School of Informatics, Aristotle University of Thessaloniki
- ★ *Dr. Vlahavas was the supervisor of my Ph.D.*

Dr. Myra Spiliopoulou (e-mail: myra@iti.cs.uni-magdeburg.de)

- Professor, Faculty of Computer Science, OvGU, Magdeburg

- ★ *Dr. Spiliopoulou supervised my master thesis in OvGU*