

Workshop Proposal for PETRA 2017

PerInt: Pervasive Intelligence in Engineering

Important dates:

- Paper submission deadline: March 3, 2017
- Notification of acceptance: March 17, 2017
- Final version due: March 31, 2017

Abstract

The recent advances in machine learning and artificial intelligence have brought about tremendous development to many areas of interest to the engineering community. Data-driven or domain-oriented engineering applications can benefit significantly from the latest developments in machine learning theories and methods, but may also promote the development of learning algorithms, optimization approaches, fusion techniques, novel hardware and network architectures. This progress, combined with an abundance of sensors and smart devices in today's Internet of Things age, will enable pervasive intelligence, thus creating great possibilities in a vast array of application domains.

List of topics

Topics of interest include, but are not limited to:

- Machine learning (including deep learning) methods for engineering applications
- Intelligent techniques for pervasive devices, wearable computers, RFIDs, sensor technology
- Intelligent transportation systems
- Smart urban spaces and smart homes
- Situation awareness and intelligent context-aware computing
- Intelligent social networking
- Pervasive intelligence in critical applications (evacuation, urban search and rescue)
- Pervasive intelligence in computer vision, robotics and automation
- Cultural heritage preservation
- Remote sensing, civil and geospatial engineering (hyperspectral imaging, mining, construction, seismic data processing, urban planning)
- Environmental engineering (land management, sea/water monitoring)
- Biomedical engineering (medical imaging, bio- and sensor informatics)

Goals

The workshop aims to bring together researchers, industry practitioners, and the community interested in intelligent pervasive technologies seen from an engineering point of view, thus providing them with a

forum for presenting their latest research findings, ideas, developments and applications. Papers from research projects in the above areas are also welcome.

Authors of selected papers focusing on deep learning techniques for engineering applications will be invited to submit extended and improved versions to be considered for publication, subject to additional review, in a Special Issue of the Computational Intelligence and Neuroscience journal (Impact Factor: 0.430).

Organizers

- **Prof. Nikolaos Doulamis**, National Technical University of Athens, ndoulam@cs.ntua.gr
- **Prof. Anastasios Doulamis**, National Technical University of Athens, adoulamc@cs.ntua.gr
- **Dr. Athanasios Voulodimos**, National Technical University of Athens, thanosv@mail.ntua.gr
- **Dr. George Athanasiou**, Institute of Communication and Computer Systems, National Technical University of Athens, george.athanasiou@iccs.gr

Organizers' short CVs

Prof. Nikolaos Doulamis received the Dipl.-Ing. degree in Electrical and Computer Engineering from the National Technical University of Athens (NTUA) in 1995 with the highest honor and the PhD degree in electrical and computer engineering from NTUA in 2000. His PhD thesis was supported by the Bodosakis Foundation Scholarship. He is currently Assistant Professor at the National Technical University of Athens. Prof. Doulamis was awarded the Best Greek Student Award in the field of engineering at a national level by the Technical Chamber of Greece in 1995. In 1996, he was received the Best Graduate Thesis Award in the area of electrical engineering. During his studies he has also received several prizes and awards from the National Technical University of Athens, the National Scholarship Foundation and the Technical Chamber of Greece. In 1997, he was given the NTUA Medal as Best Young Engineer. He has also served as program committee in several international conferences and workshops. He is reviewer of IEEE journals and conferences as well as other leading international journals. His research interests include machine learning, computer vision, and signal processing for remote sensing as well as biomedical applications. Prof. Nikolaos Doulamis is the author of 48 journal papers, 21 book chapters and 170 conference papers. In total, the cumulative sum of journals' impact factors is 78.345. In addition, among the 170 conferences 96 papers are within IEEE archives. He has received 2035 citations in his work with h-index=23 and g-index=52 (according to Google Scholar). One of his works has been cited as the "Doulamis Model" in the literature.

Prof. Anastasios Doulamis received the Diploma degree in Electrical and Computer Engineering from the National Technical University of Athens (NTUA) in 1995 with the highest honour (9.52 out of 10, first ranked among all classmates) and the PhD degree in Electrical and Computer Engineering from NTUA in 2000. He is currently Associate Professor in Technical University of Crete, while from 1st of February of 2014 he is assistant professor at the National Technical University of Athens.

Prof. Anastasios Doulamis has received several awards and prizes during his studies, including the Best Greek Student in all fields of engineering in national level in 1995, the Best Graduate Thesis Award in the

area of Electrical Engineering in 1996 and several prizes from the National Technical University of Athens, the National Scholarship Foundation and the Technical Chamber of Greece. In 1997, he was given the NTUA Medal as Best Young Engineer. In 2000, he received the best PhD thesis award by the Thomaidion Foundation. He was received best CIPA 2013 paper award and best paper award in International Communication and Signal processing Conference.

He is author of more 200 papers in the area of multimedia processing and artificial intelligence among them 17 in IEEE/ACM journals papers and more than 50 journal papers. He has also more than 2000 citations in the respective field.

He has served as organized in many major workshops, like ACM AREA 2008, ACM/IEEE Artemis 2010, 2011, 2012, 2013, GridNet 2012, ACM Event Analysis 208, 2009, 2010, 2011, Cultural Heritage Workshop 2013, etc. He has served as Guest Editor of the Multimedia Tools and Applications, Springer Press (Three times) and Future Generation Computer Systems, Elsevier Press and Advances in Multimedia Journal, Hidawi Press. He is Technical Program Committee of IEEE International Conference on Pattern Analysis, IEEE Fuzzy Conference, European Signal Processing Conference.

Dr. Athanasios Voulodimos received his Dipl.-Ing., MSc and PhD degrees from the School of Electrical and Computer Engineering of the National Technical University of Athens (NTUA) ranking at the top of his class with the highest honor. He has been involved in several European research projects, as senior researcher and technical manager. He has received awards for his academic performance and scientific achievements (incl. from the European Neural Network Society). He is the author of more than 65 papers in international journals, conference proceedings and books in the research areas of machine learning, computer vision and multimedia analysis. He has served as Organizing and Program Committee in several conferences and workshops, and is a reviewer in machine learning and multimedia related journals, such as Neural Networks, Neurocomputing, Multimedia Tools and Applications, IEEE Transactions on Multimedia.

Dr. George Athanasiou received the diploma in Electrical and Computer Engineering from University of Thessaly in 2005. In 2010 he obtained his PhD degree in Electrical and Computer Engineering from the same University. He spent several years working as a researcher in Academia (KTH Royal Institute of Technology, Information Technologies Institute at the Centre for Research and Technology Hellas, Electrical Engineering School at the Polytechnic Institute of New York University, and University of Piraeus Research Centre) and in Industry (Telefonica Research and Intracom Telecom). He was also co-founder and CTO of Aukoti AB, a Swedish startup on sensor networking and building automation. His research interests include the design and performance evaluation of wireless networks, optimization techniques, cross-layer design, smart-grid architectures, sensor networks, and vehicular networks. He has authored more than 50 publications in these areas in international journals and refereed conferences. Since September 2014 he is with the ICCS/I-SENSE group working as a Technical Manager in EU research projects. He is a member of the IEEE and the Technical Chamber in Greece.