INTERNATIONAL WORKSHOP ON MACHINE LEARNING FOR LARGE-SCALE NETWORKS

Co-located with International Joint Conference on Neural Networks (IJCNN), May 14-19 2017, Anchorage Alaska

INTERNATIONAL WORKSHOP ON MACHINE LEARNING IN LARGE-SCALE NETWORKS CO-LOCATED WITH THE INTERNATIONAL JOINT CONFERENCE ON NEURAL NETWORKS (IJCNN)

Deadline extended:

Paper submission: March 15
Abstract/talk submission: March 21

NEW! Authors of selected accepted paper will be invited to submit an extended manuscript to the Data Science journal after presentation at the workshop.

NEW! Call for Talks/Abstracts

NEW! Final Program is up

Scope of the Workshop

Modern Big Data increasingly appears in the form of complex networks and graphs. Examples include social networks, citation networks, communication networks, the World Wide Web. Researchers make use of network-based solutions for solving problems for diverse disciplines, including social mining, transportation, bioinformatics, computational science, health care and intelligence analysis. However, the massive sizes, multiple types of entities (users, documents, items etc.), user behaviours and relations between entities that nowadays characterise most networks, have increased the challenge of methodologies that analyse and mine complex networks. To address these challenges, machine learning models are often used for analysing and mining large-scale networks. Furthermore, machine learning techniques enable novel methods of describing generative models for networks structures, dynamics and communities.

The workshop will be co-located with the International Joint Conference on Neural Networks IJCNN 2017. The workshop intends to facilitate the exchange of ideas between different research communities from both academia and industry, working at the intersection of machine learning and (social/complex) networks. The workshop focus will encompass machine learning algorithms for building and analysing large-scale networks, such as social networks, citation networks, etc. The workshop will host two keynote speakers (one from academia and one from industry), which will be announced at a later date.

Topics

We are soliciting novel and original research contributions related to machine learning-based approaches to building, analysing and mining complex networks. In particular, topics of interest include but are not limited to:

- Machine learning approaches to building and mining social networks
- Clustering and ranking methods for big networks
- Large-scale link prediction algorithms
- User influence analysis
- Community detection in large-scale networks
- Machine learning applications and challenges in mining big networks
- Distributed deep learning
- Deep learning with neural networks and TensorFlow

Invited Talks:

Michael Mathioudakis *is a Postdoctoral Researcher at Aalto University.*

He received his PhD from the University of Toronto. During his academic career, he has worked on the analysis of user-generated content on the Web, with a recent emphasis on urban computing and online polarization.

His research aims to discover social patterns of behavior, understand their effects, and ultimately develop tools for a better – and more social – Web.

At Aalto University, he teaches courses on 'Modern Database Systems' and 'Social Web Mining' and serves as advisor to Bachelor and Master's students, as well as Aalto's representative at the SoBigData EU project.

Outside academia, he has worked as a data scientist at Helvia and Sometrik, two data analytics companies.

Final Program:

Friday, May 19th:

- 9:00 – 9:10 *Welcome and Introduction,* Iza Moise and Nino Antulov-Fantulin, ETH Zurich, Switzerland

- 9:10 – 10:00 *Quantifying Controversy in Social Meia,* Michael Mathioudakis, Aalto University, Finland
- 10:00 – 10:20 Break
- 10:20 – 10:50 *Signatures of dynamical regimes in the temporal Bitcoin transaction networks,* Dijana Tolic,Ruder Boskovic Institute, Croatia
- 10:50 – 11:20 *Targeting influential links with Unsupervised Learning,* Nino Antulov-Fantulin, ETH Zurich, Switzerland
- 11:20 – 11:50 *Machine Learning and Big Data,* Iza Moise, ETH Zurich, Switzerland
- 11:50 – 12:00 *Discussion and Final Remarks*

Program Committee (to be extended)

- Michael Mathioudakis, Aalto University
- Igor Mozetic, Jozef Stefan Institute
- Matko Bosnjak, University College London
- Tomislav Smuc, Rudjer Boskovic Institute,
- Izabela Moise, ETH Zurich
- Nino Antulov-Fantulin, ETH Zurich
- Pasquale De Meo, University of Messina, Italy

Important Dates (anywhere on Earth)

Submission Deadline: ~~1st of March 2017~~

Paper Submission: March 15

Abstract/Talk submission: March 21

Authors Notification: ~~15th of March 2017~~ **April 1st**
Final Manuscript Due: ~~10th of April 2017~~ **April 10**

Submission of Abstracts

Researcher are invited to submit an abstract of max 2 pages describing interesting and high-quality work (previously published or not). The abstracts should follow the same template as the papers. Accepted abstracts will be invited for presentations in the workshop.

Submission of Papers

Authors are invited to submit original and unpublished research works on above and other topics related to machine learning for large-scale networks. Paper submissions should be limited to a maximum of 6 pages in the IEEE 2-column format, including bibliography and any possible appendices. Microsoft Word templates and LaTeX templates are available at the following web page: http://www.ijcnn.org/paper-submission.

Authors are kindly invited to submit the papers electronically in PDF format through the IEEE EasyChair online submission system available at https://easychair.org/conferences/?conf=mlln2017

All submissions will be peer-reviewed on the basis of technical quality, relevance to the topic, originality, significance and clarity. Each submission should be regarded as an undertaking that, if the paper is accepted, at least one of the authors must register and attend the conference to present the work.

Authors of selected accepted paper will be invited to submit an extended manuscript to the Data Science journal after the workshop.

Workshop Chairs

Izabela Moise, ETH Zurich

Nino Antulov-Fantulin, ETH Zurich
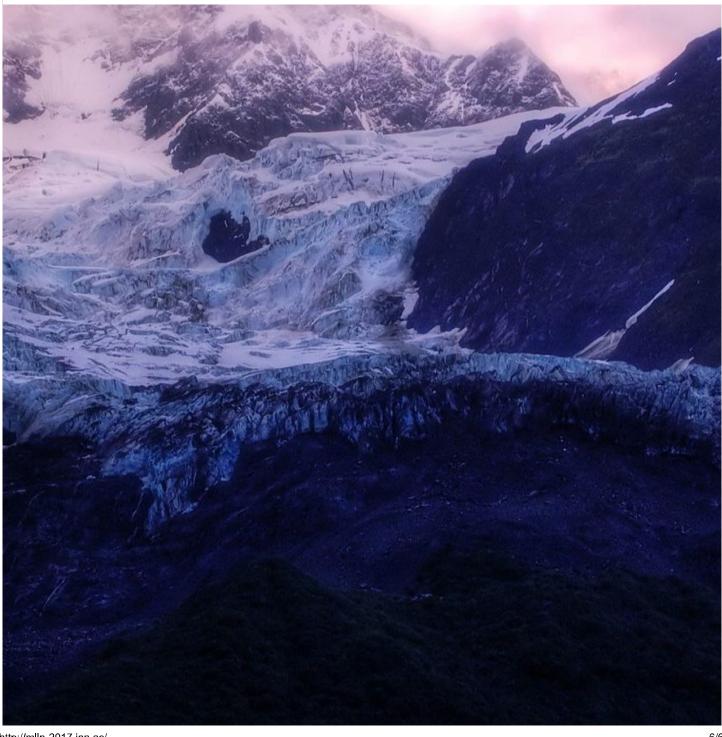
For any inquiries, please contact us at:

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