UMAP 2019 Workshop on Explainable and Holistic User Modeling (ExHUM) Chairs' Welcome

It is our great pleasure to welcome you to the *UMAP 2019 Workshop on Explainable and Holisitic User Modeling (ExHUM).*

Our workshop took inspiration from the analysis of the recent Web dynamics: according to a recent claim by IBM, 90% of the data available today have been created in the last two years. Such an exponential growth of personal information has given new life to research in the area of user modelling, since information about users' preferences, sentiment and opinions, as well as signals describing their physical and psychological state, can now be obtained by mining data gathered from many heterogeneous sources.

How can we use such data to drive personalization and adaptation mechanisms? How can we effectively merge such data to obtain a holistic representation of all (or some of) the facets describing people?

Moreover, as the importance of such technologies in our everyday lives grows, it is also fundamental that the internal mechanisms that guide personalization algorithms are as clear as possible. It is not by chance that the recent General Data Protection Regulation (GDPR) emphasized the users' right to explanation when people face machine learning-based systems. Unfortunately, the current research tends to go in the opposite direction, since most of the approaches try to maximize the effectiveness of the personalization strategy (e.g., recommendation accuracy) at the expense of the explainability and the transparency of the model.

Accordingly, other important questions arise: how we can deal with the dichotomy between the need for effective adaptive systems based on heterogeneous and personal data and the right to transparency and interpretability? Is it possible to design systems that merge several forms of personal information and also guarantee a transparent and scrutable personalization strategy?

Our workshop aims to provide a forum for discussing open problems, challenges and innovative research approaches related to both holistic user modeling and explainable and transparent algorithms. Specifically, we want to investigate:

- how to build a new generation of personalized and intelligent systems that exploit multiple data points (e.g., by combining mood data and music preferences data to provide recommendations on music to be listened);

- how to guarantee transparency and explainability in the user modeling, adaptation and personalization processes.

We received proposals from all around the world covering a broad range of topics. We evaluated them for relevance, quality, and novelty, selecting 10 papers (7 full papers, 3 short papers). We also considered the coverage of the different areas related to holistic user modeling and explainability, and the potential audience. Specifically, the following contributions were accepted:

1. Stefan Hirschmeier. *Towards Explanations of Anti-Recommender in Public Radio*

2. Marco Polignano, Pierpaolo Basile, Marco de Gemmis and Giovanni Semeraro. *Social Tags and Emotions as main Features for the Next Song To Play in Automatic Playlist Continuation*

3. Emily Sullivan, Dimitrios Bountouridis, Jaron Harambam, Shabnam Najafian, Felicia Loecherbach, Mykola Makhortykh, Domokos Kelen, Daricia Wilkinson, David Graus and Nava Tintarev. *Reading News with a Purpose: Explaining User Profiles for Self-Actualization*

4. Sixun Ouyang and Aonghus Lawlor. *NEAR: a partner to explain any factorised recommender system*

5. Nadia Hocine. *Personalized Serious Games for Self-regulated Attention Training*

6. Liat Antwarg Friedman, Bracha Shapira and Lior Rokach. *Explaining Anomalies Detected by Autoencoders Using SHAP*

7. Erjon Skenderi, Ekaterina Olshannikova, Thomas Olsson, Jukka Huhtamaki, Sami Koivunen, Peng Yao and Heikki Hutunen. *Investigation of Egocentric Social Structures for Diversity-Enhancing Followee Recommendations*

8. Federica Cena, Ruggero G. Pensa and Amon Rapp. *Privacy Issues in Holistic Recommendations*

9. Mirko Polato, Guglielmo Faggioli and Fabio Aiolli. *Tag-Based User Profiling: A Game Theoretic Approach*

10. Jordan Barria-Pineda, Kamil Akhuseyinoglu and Peter Brusilovsky. *Explaining Need-based Educational Recommendations Using Interactive Open Learner Models*

We believe that the program provides a good balance between the different topics covered by workshop: we accepted papers related to the area of explanation (#3, #4, #6 and #10) and papers investigating the opportunities coming from the exploitation of personal data and heterogeneous features (#2, #5, #9). Moreover, we also included new personalization scenarios (#1) and the trending topic of the privacy management in holistic recommendations (#8). We hope that you will find the workshop program interesting, providing you with a valuable opportunity to learn and share ideas with other researchers and practitioners from institutions around the world.

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UMAP 2019 Workshop on Explainable and Holistic User Modeling (ExHUM) Organization

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