ECAI 2020 Workshop on Singular Problems for Healthcare (SP4HC)

Santiago de Compostela, Spain, June 9th, 2020

Conference website: http://www.smarttechresearch.com/SP4HC2020/
Submission link: https://easychair.org/conferences/?conf=sp4hc
Submission deadline: March 31st, 2020
Topics: Artificial Intelligence, Healthcare
Venue: Same than ECAI 2020

The workshop on Singular Problems for Healthcare (SP4HC) is devoted to advances in *Artificial Intelligence* applied to *Healthcare* and *Well-Being*, with an active interest in frontier-of-knowledge Machine Learning subjects. Namely the so-called *singular problems*: In particular, imbalanced classification, which is pervasive in important practical problems in healthcare and, consequently, has generated a tremendously increasing interest. Associated singular problems, such as ordinal classification, multi-label classification, and similar, also merit the attention of this workshop.

Extensions to these singular problems (multiclass formulations and functional costs, for example) will be also considered, and special attention will be paid to promising implementations: Ensembles, deep architectures, and dynamic machines. Additionally, less usual (in general terms) learning situations (mainly, reinforcement and transfer learning) will be included. To address from the best position practical applications, partial information cases (missing values, noisy labels, etc.) will be considered, too.

All the above is expected to be applied to Healthcare and Well-being, although theoretic contributions (with potential application to healthcare) are also welcome. Our aim is to foster the participation of practitioners and researchers so as to establish synergies with interested entities and researchers for carrying out cooperation and practical applications.

Submission Guidelines

All papers must be original and not simultaneously submitted to another journal or conference. The following paper categories are welcome:

- **Posters** (2-5 pages) describing novel ideas under development within the topics of the conference.
- **Short papers** (5-10 pages) position papers, or open problems papers within the topics of the conference.
- **Full papers** (10-15 pages) describing theoretic advances in artificial intelligence applied to singular problems or alike (please see topics). Also, practical papers with the application of AI techniques in the healthcare sector are welcome.

List of Topics

Topics of interest include but are not limited to the following:

- Data Analytics using Electronic Health Records
- Data Visualization
- Recommendation Systems for Healthcare (healthy routes/habits, diet, …)
- Imbalanced Classification in Healthcare
- Ordinal and Multi-label Classification in Healthcare

- Ensembles and Deep Architectures for Healthcare
- Dynamic Learning for Healthcare
- Fuzzy and Probabilistic Process Mining in Healthcare
- Reinforcement Learning in Healthcare
- Transfer Learning in Healthcare
- Techniques to deal with Missing Values/Unknowns in Clinical Trials and alike (Pre-processing)
- AI applied to Mental Illness, Depression, Alzheimer, Cognitive impairment, …

Committees

Program Committee

- Roberto Bravo - Persei vivarium (Spain)
- Mercedes del Valle - Visual TEAF (Spain)
- Andries Engelbrecht - Stellenbosch University (South Africa)
- Mohsen Farid - University of Derby (United Kingdom)
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- Leif Sörnmo - Lund University (Sweden)
- Vanesa Soto-León - Hospital Nacional de Parapléjicos de Toledo (Spain)
- Emmanuel Wey - University College London (United Kingdom)

Workshop Chairs

- Inmaculada Mora - Universidad Rey Juan Carlos (Spain)
- Miquel Sànchez-Marrè - Universitat Politècnica de Catalunya (Spain)
- Agusti Solanas - Universitat Rovira i Virgili (Spain)

Invited Speakers

- Aníbal Figueiras-Vidal - GAMMA-DTSC-UC3M & RAIng (Spain)
- Robert Jenssen - University of Tromso (Norway)

Publication

SP4HC proceedings will be published in a book with ISBN. We are under negotiations with Springer to publish under the LNCS series. Selected papers will be invited to extend their work and submit it to several special issues.

Special Issue on Sensors for Smart Healthcare

Special Issue in the International Journal of Interactive Multimedia and Artificial Intelligence

Venue

The workshop will be held on **June 9th, 2020** in Santiago de Compostela (Spain) along with ECAI 2020.

Contact

All questions about submissions might be directed to agusti_dot_solanas_at_urv_dot_cat