OL2A
II INTERNATIONAL CONFERENCE

OPTIMIZATION • LEARNING • ALGORITHMS • APPLICATIONS

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BOOK OF ABSTRACTS

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Welcome

Welcome to OL2A 2022 - International Conference on Optimization, Learning Algorithms and Applications.

OL2A offers a forum for the research community on optimization and learning to get together and share the latest developments and techniques as well as develop new paths and collaborations. OL2A provides a broad scope of presentations, covering many areas of optimization and learning and state of the art applications to multi-objective optimization, optimization for machine learning, machine learning for optimization, optimization and learning under uncertainty and 4th industrial revolution.

It is with great pleasure that the Organizing Committee welcomes you all to OL2A 2022!

The OL2A'2022 organization committee,

Ana Isabel Pereira, Andrej Košir, Alexandre Douplik, Florbela Fernandes, João Paulo Coelho, João Paulo Teixeira, José Lima, Maria Pacheco, Luca Oneto, Paulo Alves and Rui Lopes

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Long-Term Person Reidentification: Challenges and Outlook

Anderson Manhães, Gabriel Matos, Douglas O. Cardoso, Milena F. Pinto, Jefferson Collares, Paulo Leitão, Diego Brandão, Diego Haddad

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Person reidentification, i.e., retrieving a person of interest across several non-overlapping cameras, is a task that is far from trivial. Despite its great commercial value and wide range of applications (e.g., surveillance, intelligent environments, forensics, service robotics, marketing), it remains unsolved, even when the individuals do not change clothes during the recognition period. This paper provides an outlook on long-term person reidentification, an emerging research topic regarding when consecutive acquisitions of an individual can be found apart for days or even months, making such a task even more challenging. A long-term reidentification system using face recognition is presented to emphasize current techniques' limitations.

Is Diabetic Retinopathy Grading Biased by Imbalanced Datasets?

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Diabetic retinopathy is one of the most severe complications of diabetes and the leading cause of vision loss and even blindness. Retinal screening contributes to early detection and treatment of diabetic retinopathy. This eye disease has five stages, namely normal, mild, moderate, severe and proliferative diabetic retinopathy. Usually, highly trained ophthalmologists are capable of manually identifying the presence or absence of retinopathy in retinal images. Several automated deep learning (DL) based approaches have been proposed and they have been proven to be a powerful tool for DR detection and classification. However, these approaches are usually biased by the cardinality of each grade set, since overall accuracy benefits the largest sets in detriment of smaller ones. In this paper, we applied several state-of-the-art DL approaches, using a 5-fold cross-validation technique. The experiments were conducted on a balanced DDR dataset containing 31330 retina fundus images by completing the small grade sets with samples from other well known datasets. This balanced dataset increases robustness of training and testing tasks as they used samples from several origins and obtained with different equipment. The results confirm the bias introduced by using imbalanced datasets in automatic diabetic retinopathy grading.
