Proposal for Special Session at IEEE CASE 2021

Goal:

- This special session is devoted to research work involving machine learning techniques in sports science and medicine. The focus will be on two fundamental aspects of the field: improving performance and preventing injuries.
- Improving performance using AI and Machine Learning is a crucial concern, as it involves repercussions on the financial and decision-making aspects in sports management. Amateur athletes are also interested in improving their performance, for the game but also for personal development. Several works have already been proposed on this topic and it seem important to gather people interested in the topic at CASE2021.
- The second major focus of this special session will be the use of Machine learning and data science for injury prevention. Two main aspects are concerned, (1) the assessment of causes and risk factors of injury occurence using training and competition data statistical analysis, and (2) the prediction of injuries using Machine Learning algorithms. This field is of growing interest but remains to be developed in the future, for both professional athletes and amateurs.

Session Title: AI for sports sciences and medicine: towards performance enhancement and injury prevention.

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