Challenges and roadmap for machine learning from medical data streams

Experts Panel Summary

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Abstract. Given that it is still a young research area, the workshop aimed at convening researchers from related fields in order to find and consolidate a network of interests. To that extent, the workshop promoted a panel discussion on the *"Challenges and roadmap for machine learning from medical data streams"*, with the participation of three scholar experts: *Carlo Combi* (*University of Verona, Italy*), an expert on temporal information systems, with an emphasis on the management of clinical information; *Carolyn McGregor* (*University of Ontario Institute of Technology, Canada*), an expert on health informatics, with an emphasis on data streams processing in critical care settings; and *João Gama* (*University of Porto, Portugal*), an expert on machine learning, with an emphasis on learning from ubiquitous data streams. Several topics were suggested to be discussed, such as the main domains where medical data is produced as a stream, and issues that differentiate this research area from other related fields. Overall, most experts opinion focused on the need to address problems on a temporal basis: temporal processing of data, temporal modelling of the reality, temporal learning from data, and temporal assessment of knowledge. Globally, the panel provided a forum to discover how related fields of research are actually approaching the same problems and connecting solutions.