Towards hospitalization after readmission risk prediction using ELMs

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© Springer International Publishing AG 2017.A criteria to evaluate the performance of Emergency Departments (ED) is the number of readmissions and hospitalizations short time after discharge of patients because the problem was not solved in the first admission. Such events contribute to overload the care system and to worsening the health of patients. In this paper we address the problem of predicting hospitalization events after readmission in ED, facing it as a classification problem and using Extreme Learning Machines (ELM). We have carried out experiments with a dataset with 45,089 admission events of 21,269 pediatric patients recorded in the Hospital José Joaquín Aguirre of the University of Chile during 3 years and 4 months, improving the state-of-the-art sensitivity results on the same dataset by 17%.