JFML: A Java Library to Design Fuzzy Logic Systems According to the IEEE Std 1855-2016

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**Abstract:** Fuzzy Logic Systems are useful for solving problems in many application fields. However, these systems are usually stored in specific formats and researchers need to rewrite them to use in new problems. Recently, the IEEE Computational Intelligence Society has sponsored the publication of the IEEE Standard 1855-2016 to provide a unified and well-defined representation of fuzzy systems for problems of classification, regression and control. The main aim of this standard is to facilitate the exchange of fuzzy systems across different programming systems in order to avoid the need to rewrite available pieces of code or to develop new software tools to replicate functionalities that are already provided by other software. In order to make the standard operative and useful for the research community, this paper presents JFML, an open source Java library that offers a complete implementation of the new IEEE standard and capability to import/export fuzzy systems in accordance with other standards and software. Moreover, the new library has associated a website with complementary material, documentation and examples in order to facilitate its use. In this paper, we present three case studies which illustrate the potential of JFML and the advantages of exchanging fuzzy systems among available software.