

2016-09-23

Integrating Medical Scientific Knowledge with the Semantically Quantified Self

Third, Allan

International Semantic Web Conference

<http://hdl.handle.net/11728/11777>

Downloaded from HEPHAESTUS Repository, Neapolis University institutional repository

Title:	Integrating Medical Scientific Knowledge with the Semantically Quantified Self
Year:	2016
Author:	Allan Third , George Gkotsis , Eleni Kaldoudi , George Drosatos , Nick Portokallidis , Stefanos Roumeliotis , Kalliopi Pafili , and John Domingue
Abstract:	<p>The assessment of risk in medicine is a crucial task, and depends on scientific knowledge derived by systematic clinical studies on factors affecting health, as well as on particular knowledge about the current status of a particular patient. Existing non-semantic risk prediction tools are typically based on hardcoded scientific knowledge, and only cover a very limited range of patient states. This makes them rapidly out of date, and limited in application, particularly for patients with multiple co-occurring conditions. In this work we propose an integration of Semantic Web and Quantified Self technologies to create a framework for calculating clinical risk predictions for patients based on self-gathered biometric data. This framework relies on generic, reusable ontologies for representing clinical risk, and sensor readings, and reasoning to support the integration of data represented according to these ontologies. The implemented framework shows a wide range of advantages over existing risk calculation.</p>