

An Italian thesaurus for cybersecurity and its integration with an ontology structure

CLAUDIA LANZA*

ABSTRACT: This paper presents the realization of the first prototype of an Italian thesaurus for the Cybersecurity domain and its first migration into an ontology system. Both the thesaurus and the ontology have been precisely developed for the project carried out with the Informatics and Telematics Institute (IIT) Cybersecurity Lab in Pisa, the “Cybersecurity Osservatorio” (ocs). The semantic resources are undergoing a strengthening phase as part of a PhD research project and are currently available amongst the services on ocs website¹. The purpose has been to realize an Italian thesaurus for Cybersecurity, which is not nationally provided yet, that could better frame the information on Cybersecurity and be a terminological means of support to broadly understand the domain from a semantic point of view. The future objective is to transfer the content of the thesaurus into an ontology in a semi-automatic way.

Keywords: Cybersecurity, Thesaurus, Ontology, NLP, Terminology.

1. Introduction

As stated in the standard ISO 25964-1², a thesaurus is «A controlled vocabulary that includes as much as possible all the terms of a specific domain and the semantic relationships among them in order to create an empowered tangle of terminological network that can guide the comprehension of a particular field of knowledge». Creating a network of semantic relationships among the terms belonging to a specific domain can be considered as a remarkable strength point for a thesaurus. The basic relationships of a thesaurus are of three types³:

* University of Calabria, DIMES, Arcavacata di Rende (cs), Italy.
c.lanza@dimes.unical.it

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2. ISO 25964-1, Information and documentation — Thesauri and interoperability with other vocabularies — Part 1: Thesauri for information retrieval, First edition 2011-08-15.

3. V. BROUGHTON, *Costruire thesauri*, Editrice Bibliografica, Milano 2006.