Editorial

This JIDM Special Issue brings three extended versions of demonstration papers presented at the Demos Session of the 36th Brazilian Symposium on Databases (SBBD 2021) and published in the extended proceedings of the conference. SBBD is the largest venue in Latin America to exchange and disseminate cutting-edge ideas and results in the Database domain. The Demos Session is the forum at SBBD for demonstrations of innovative, practical, and functional solutions for relevant data and information management problems requiring significant research and development effort. All the submitted articles for this special issue have at least 30% of new content material to the original paper and were extensively revised by active members of the Brazilian Database community. The selected submissions present applications associated with emerging as well as traditional areas, namely, database techniques to benefit machine learning tasks, conceptual database modeling, and expertise retrieval coupled with data integration. Moreover, all the applications are publicly accessible through the addresses provided in the articles.

This special issue opens with the article entitled "Capturing Provenance from Deep Learning Applications Using Keras-Prov and Colab: a Practical Approach", by Débora Pina, Liliane Kunstmann, Felipe Bevilaqua, Isabela Siqueira, Alan Lyra, Daniel de Oliveira, and Marta Mattoso. This contribution presents Keras-Prov, an extension to the popular Keras deep learning API. Keras-Prov enhances Keras with automatic data provenance capture compliant with the W3C PROV recommendation. The authors describe their proposal's underlying data representation and internal components before presenting and evaluating a strategy to integrate Keras-Prov with Google Colab.

The second article is "Consistent design of relational databases using EERCASE", by Robson N. Fidalgo and Edson A. Silva. EERCase is a tool to support conceptual modeling using the Enhanced Entity–Relationship model. It adheres to the graphical notation of the well-known database textbook by Elsmari and Navathe, detects syntactic and semantic errors, and automatically generates SQL DDL expressions from diagram artifacts. The authors present the main concepts behind EERCase, provide implementation details, describe its usage, and discuss its potential as an educational tool.

The final article, "Searching for Researchers: an Ontology-based NoSQL Database System Approach and Practical Implementation", presents Quem@PUC, a retrieval system currently in production at PUC-Rio University, which helps find experts in a domain area. Quem@PUC employs an ETL process supported by ontologies to collect data from various sources and integrate them into RDF stores. The article describes the system's architecture, technologies, and features. The contribution also presents Busc@NIMA, a domain-specific retrieval system, which is the predecessor of Quem@PUC. The authors of this work are Mariana D. A. Salgueiro, Veronica dos Santos, André L. C. Rêgo, Daniel S. Guimarães, Jefferson B. dos Santos, Edward H. Haeusler, Marcos V. Villas, and Sérgio Lifschitz.

On behalf of the JIDM Editorial board, we hope you enjoy reading this JIDM Special Issue. We would like to thank everyone who contributed to this Special Edition, particularly reviewers for their insightful comments and authors for their contributions and hard work in preparing their manuscripts.

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