



Recommendation of Topics and Practical Labs to Teach Semantic Web to Current Bachelor of Computing Systems

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Abstract

The role of the Semantic Web in Web 3.0, the next evolution of the internet, is significant. Web 3.0 is often referred to as the 'intelligent web' or the 'Semantic Web'. The Semantic Web is an essential topic in Web 3.0 because it enables data integration, enhances data search on the World Wide Web, and promotes the development of knowledge graphs that allow computers to derive new insights and generate knowledge. Teaching the Semantic Web to undergraduate students offers numerous benefits. Students gain a deep understanding of cutting-edge web technologies, technical skills in data integration (the ability to develop systems with diverse datasets and linked data), and capabilities in information retrieval and knowledge management (data modelling and linked data querying). Moreover, they are able to design and develop different types of web-based applications such as intelligent data-driven decision-making apps, AI apps, or personalised-recommendation apps. In this article, we present ways to effectively integrate the Semantic Web as a subject in the current Computing Systems curriculum offering at Eastern Institute of Technology. We also propose a recommended list of theory topics, practical labs and practical projects that should be designed and developed to teach this paper effectively for undergraduate students.

Keywords: Semantic Web, Web 3.0, course design, theory topics, practical labs

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