

A Conceptual Model to Support the Transmuters in Acquiring the Desired Knowledge of a Data Scientist

ABSTRACT

Recently, data science has emerged as the most attractive profession. This is mainly because data scientists are currently in high demand in the business and healthcare industry, and are also a high-paying profession and several career options. Inspired by this, the transmuter (i.e. a person who wants to change his/her profession as per job trends) having different educational backgrounds focuses on acquiring the required level of knowledge and skills regarding the data scientist. However, to the best of our knowledge, the current state-of-the-art lacks in providing any information/roadmap useful for the transmuters to gain the required set of data scientist's knowledge and skills. Based on this, the main objective of this work is to identify the skills and knowledge required for data scientists keeping in view of their educational background. To achieve this, we have conducted an exploratory study and received responses from 134 data scientists of different educational backgrounds from 31 countries. The conducted study suggests the six different types of data scientists, which help different organizations to build an effective team for data scientists. Moreover, this study also proposed a conceptual model for transmuters as well to adopt data science according to the respective data scientist's category. Moreover, the current study also aims to reduce the gap between industry and academic. The proposed framework is validated using an expert opinion-based technique. We believe that current work effectively supports both transmuters and industry; for transmuters, it helps them to propose the appropriate tools and required knowledge, and for the industry, it provides the basic strengths and weaknesses of different categories of transmuters.