

A Review of Machine Learning Frameworks on Venture Capital Investments

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Abstract. Venture capital investors are the investors who are investing in start-up companies in order to help them to scale up their companies. This study mainly focuses on reviewing the existing Machine Learning (ML) models designed for venture capital investments. The aim is to compare the accuracy levels of different types of ML algorithms which have been used to evaluate start-up companies. To conduct this review, 11 existing research studies were chosen, and those studies were analysed carefully in order to filter the necessary data and information. Studies which were carried out in the time periods 2016-2021 have been considered in order to gather information. The accuracy levels of each ML algorithm have been plotted after carrying out a thorough study. After analyzing the results, it was evident that various algorithms have performed with different accuracy levels. But two specific algorithms namely Gradient Tree Boosting and Heterogenous algorithms have been able to show higher accuracy levels and call-back rates. Therefore, it has been concluded that Gradient Tree Boosting and Heterogeneous algorithms are the most suitable ML algorithms to implement a start-up evaluation model.

Keywords: *Venture Capital Investments, Machine Learning Model, Machine Learning Algorithm, Start-up*