

## ABSTRACT

Fashion is a multi-billion-dollar industry with social and economic implication worldwide. Fashion industry values three trillion US dollars with 4% of global market share worldwide, where retail value of luxury goods market worth 339.4 billion dollars and the value of the womenswear industry worth 521 billion dollars. Fashion Week is one of the most important events within fashion industry. Fashion Week as an essential show aims to introduce new trends and collections on moving bodies, presenting how the cut and fabric interplayed with the body. A moving body represents by fashion models, a special talent in fashion who displays the attractiveness of the brand in advertisements and runways.

Fashion models is discovered through agency who also distribute them to the network of fashion world. Modeling agency is the curators that discover beauty to define aesthetic of agency. Modeling agencies are always looking for new talents, also called scouting. The growing popularity of social media and online technology has opened a new way for talents to self-promote and agents to scout for new talents. Technological changes provide several opportunities. Recently, model agencies outsource talent scouting and other related services that cost 25.3% of revenue.

Many fields of study have been shifting to digitalization, including fashion industry. One of key pillars in fashion industry 4.0 is the emerging of artificial intelligence, allowing us to imitate the knowledge of traditional talent scouting process into an automation model based on machine learning practice. The primary objective of this study is to build an automation model of talent scouting process using application of Machine Learning for Classification task. Specifically, the paper consider Decision Tree, and Random Forest to predict early success of fashion model under the merging framework of science of success.

**Keywords:** Fashion Industry, Machine Learning, Model Prediction, Decision Tree, Random Forest