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# Significance of Feature Engineering for Upgrading the Performance of the Model in Machine Learning Which is Regarded as Artificial Intelligence Subdomain

Dr. Alekhya. Andanamala

M Tech; Ph.D.; D.Sc.-Doctor of Science (CSE & IT)

## ABSTRACT

**Feature Engineering is a Process to errect new features and revolutionise the existing features to ameliorate the Performance of the machine learning model in real world machine learning Project. Feature Engineering is a crucial step in machine learning Pipe line. Where u will metamorphosize data into format that is more apt for modelling that expands more accuracy and Precision of the model.Depending on the data and Problem at hand it can provide significant gains in accuracy but some times in cost of speed in both training and Prediction.This refines model performance with out becoming too complex and prone to over fitting .**

**Keywords: Feature Engineering, Modelling, Crucial, Prediction**

## INTRODUCTION

Feature Engineering is a technique that leverages information in training set to create new variable that enhance model accuracy.In any Problem Domain specific knowledge goes into deciding data to collect and this variable domain knowledge can be used to extractvalue from the collected data in affect affixing features to the model before model building .This Process is called feature engineering.It is a creative part of machine learning to enhance the model by digging into the data and extracting hidden value.It reduces number of resources for Processing while retaining significant information .

**Aims & Objectives:**

1. To boost Performance of a model in a real world machine learning Project
2. To help the model performance inorder to enhance convergence and reduce biasis
3. It optimises model performance by transforming and selecting relavant features.

## RESEARCH METHODOLOGY

Feature Engineering concerns vital steps encompass Perceiving the data selection and feature remodelling and evaluating them accurately for machine learning algorithms by a.Perceiving the Patterns in the data and yielding new features based on Specialised area of study using feature creation.b.Feature extraction can be done by metamorphose the feature integrating or aggregating the existing features.c.Feature transformation is a Process of metamorphoses of features into more felicitous depiction for machine learning model.d.Feature selection include methods like correlation analysis;mutual information and stepwise regression.e.Feature scaling is crucial in machine learning because scale of features can affect the performance of the model by improving 1.Model robustness 2.Improving computational efficiency 3.Improving model interpret ability.

## RESULTS & CONCLUSION

Set of informative and relavant features that trains machine learning model to improve its accuracy and Performance thus has been created .

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