Machine Learning Libraries in Graphics Design: A Review

DEEP LEARNING
INDABA

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Abstract

The term 'Machine Learning' was first coined by Arthur Samuel in 1959 after Alan Turing's lecture at the London Mathematical Society back in February 20, 1947 where he said that we want such a machine with the ability to learn from experiences [1]. As the concept and implementation of cutting-edge technologies like artificial intelligence and machine learning has become relevant, academics, researchers and information professionals involve research in this area. Machine learning libraries include Numpy, Scipy, Scikit-learn, Theano, TensorFlow, Keras, PyTorch, Pandas and so on [2]. The objective of this study is to provide a literature review of machine learning libraries in graphic design.

A review of studies is a method for finding, examining, and interpreting all available information on a specific study topic or topic of interest, as demonstrated by [3] in this case, machine learning libraries in graphics design.

Methods

A reliable, strong, and quantitative method has been used to address those problems. After formulating a list of research topics, relevant publications were sought out using a variety of databases, including Scopus, and Google Scholar and Researchgate ONLY was considered to limit duplication. Finally, to address the research questions, the publications that were the most specific and pertinent were extracted.

Then, the application area list was expanded during research and a Research Information Template (RIT) was generated accordingly, as shown in Figure 1.

The period affecting this analysis was justified between January 2018 and July 2023 which are judged to be sufficient for the study. Initially, the full metadata would have been selected for searching and if this option was not available, the common search choice (keyword, title and abstract) was used.

Result Analysis for SVM
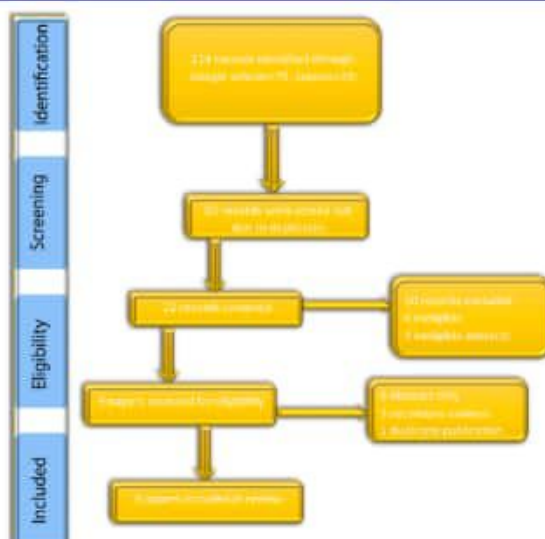
Result Analysis for KNN

Figure 2 displays of the frequency of occurrence of the machine learning libraries in graphic design within the period under review. A close observation of the study reveals a steady increase in machine learning libraries' visibility in the study from 2018 to 2022. It is also observed that there is a decline between 2022 and 2023. The decline might not be unconnected with the period of the study. While the study considered 12 months in 2022, only 7 months were considered in 2023.
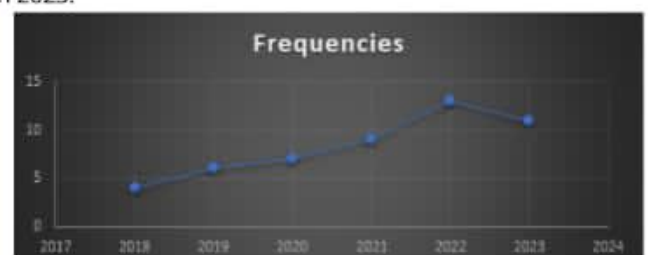
Conclusion

A literature review on machine learning library in graphic design is explored in this paper it involves researching and analyzing existing scholarly articles, research papers, and other sources that discuss the use of machine learning libraries in the field of graphic design. This would likely spore computer scientists and machine learning experts in particular to develop algorithms that will aid graphic design

References

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