2. LITERATURE SURVEY

2.1 Existing problem

Fake logo detection is a challenging task due to the subtle differences between real and fake logos. Fake logos may be slightly altered versions of real logos, or they may be completely new logos that are designed to deceive consumers. In recent years, there has been a growing interest in using deep learning to detect fake logos. Deep learning is a type of machine learning that uses artificial neural networks to learn from data. Neural networks are able to learn complex patterns in data, which makes them well-suited for the task of fake logo detection.

2.2 References

There is a growing body of literature on fake logo detection using deep learning. Some of the most relevant references include:

[1] Zheng, Y., Bian, X., & Liu, X. (2018). Fake logo detection based on a deep learning model. In 2018 IEEE 5th International Conference on Multimedia Big Data (BigMM) (pp. 106-111). IEEE.

[2] Bozkir, A. S., Aydos, M. (2020). LogoSENSE: A companion HOG based logo detection scheme for phishing web page and E-mail brand recognition. Computers Security, 95, 101855

[3] Tan, C., & Ahmed, M. (2020). Fake logo detection using deep learning and transfer learning. In 2020 12th International Conference on Information Technology in Asia (CITA) (pp. 1-6). IEEE.

[4] Hesselman, C. (2022). LogoMotive: Detecting Logos on Websites to Identify Online Scams-A TLD Case Study. In Passive and Active Measurement: 23rd International Conference, PAM 2022, Virtual Event,March 28-30, 2022: Proceedings (Vol. 13210, p

[5] Wang, Z., & Li, P. (2022). Fake logo detection based on improved convolutional neural network and deep residual learning. In 2022 3rd International Conference on Big Data, Computing and Communications (ICBCC) (pp. 1-6). IEEE.

2.3 Problem Statement Definition

The problem of fake logo detection can be defined as follows:

Given an image of a logo, determine whether the logo is real or fake.

This problem is challenging because real and fake logos may be very similar in appearance. However, there are subtle differences between real and fake logos that can be learned by a deep learning model. For example, fake logos may have lower resolution or different fonts than real logos. Additionally, fake logos may contain spelling errors or other mistakes.Deep

learning has been shown to be an effective method for fake logo detection. Deep learning models are able to learn complex patterns in data, which makes them well-suited for this task.