**ABSTRACT**

In an age where social media has become an integral part of our lives, the challenge of detecting fake accounts on platforms like Instagram has gained significant importance. This project, titled "Instagram Fake Account Detection using Machine Learning," employs Python as its primary tool to tackle this problem. It leverages two powerful machine learning algorithms, the Random Forest Classifier and the Decision Tree Classifier, to accomplish this task.

The Random Forest Classifier demonstrates remarkable performance, achieving a 100% accuracy on the training dataset and an impressive 93% accuracy on the test dataset. Meanwhile, the Decision Tree Classifier exhibits its effectiveness with a training accuracy of 92% and a test accuracy of 92%.

The dataset employed in this project is composed of 576 records, each characterized by 12 distinct features. These features encompass critical aspects of Instagram profiles, including the presence of a profile picture, the ratio of numerical characters in usernames, the breakdown of full names into word tokens, the ratio of numerical characters in full names, the equality between usernames and full names, the length of user bios, the existence of external URLs, the privacy status of accounts, the number of posts, the count of followers, the number of accounts followed, and the ultimate classification of an account as "Fake" or "Not."

By harnessing the capabilities of Python and these advanced machine learning models, this project endeavors to provide a robust and efficient solution for the identification of fake Instagram accounts. In doing so, it contributes to the preservation of the platform's integrity and the security of its users.