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# AI based System for Fake Profile Detection on Matrimonial Websites

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**Abstract:** Nowadays, finding your soul partner sometimes involves using matrimonial services. However, the prevalence of false accounts on these platforms has grown to be a serious problem for both consumers and service providers. For the authenticity and dependability of matrimonial services, the identification of false profiles is a serious issue. The approach described in this study uses AI to spot phoney matrimonial site profiles. To find and report problematic accounts, the system makes use of social network analysis tools and machine learning algorithms. The suggested approach can enhance the legitimacy and dependability of marriage-related websites by lessening the possibility of fraudulent operations.

## I. INTROUDCTION

As more individuals search for marriages, matrimonial websites have developed. Customers and service providers are becoming worried about fake accounts on these platforms. Fake accounts may impair marriage websites' reputation by encouraging fraud and identity theft. Therefore, marriage services must be able to recognise false accounts to remain legitimate and trustworthy.

A AI-based method for detecting fake marriage accounts on marriage websites may tackle this problem. A cutting-edge machine learning system may analyse user data to find patterns that signal fake profiles. This AI-based method for detecting false accounts on matrimonial websites should improve user security and trust, making life partner selection safer and more dependable.

## II. METHODOLOGY

The proposed system employs the following methodology:

**Data collection:** The system collects data from user profiles on matrimonial sites, including profile pictures, personal information, and social connections.

**Feature extraction:** The system uses various techniques to extract features from the collected data, including text-based features. For preprocessing it uses encoders.

**Model training:** The system employs machine learning algorithm, such as Random Forest, to train a classifier that can distinguish between real and fake profiles.

**Fake profile detection:** The system uses the trained classifier to identify and flag suspicious profiles based on the extracted features.

The proposed system is evaluated using a dataset of 1,000 user profiles collected from a popular matrimonial site. The dataset contains both real and fake profiles, with a ratio of 60:40, respectively. The system is trained and tested on the dataset using machine learning algorithm, such as Random Forest.

There are mainly three modules in proposed system such as:

**Profile Validator**-responsible for overseeing the training phase of the application, including uploading the training dataset, initiating the training process, creating a model, and viewing training results.

**Profile Checker** - responsible for overseeing the evaluation phase of the application, including uploading the test dataset and viewing test results.

**Profile Verifier** - responsible for registering with personal details, logging in, uploading a test data, and checking recommendations for the presence of fake profiles on the matrimonial websites.

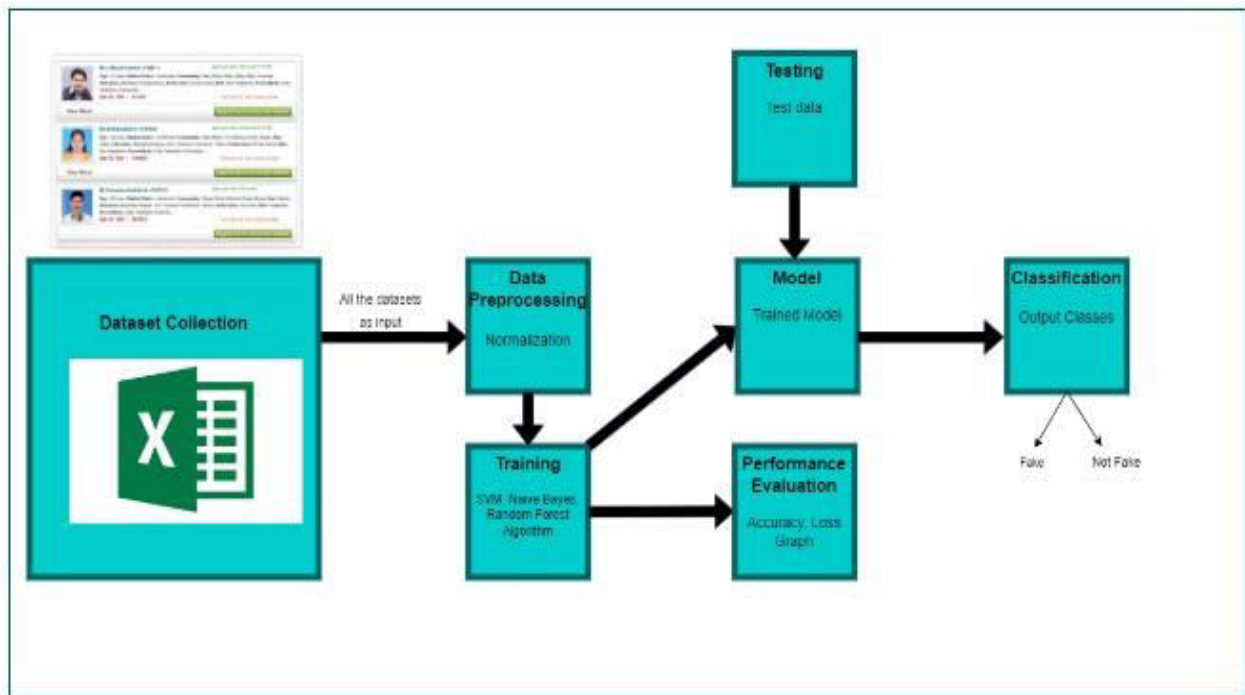


Figure: System Architecture

### III. RESULT AND DISCUSSION

The recommended approach uses machine learning algorithms. The four main operations of the system are data collection, feature extraction, model training, and false profile identification. The system collects data from user profiles, such as social connections, private information, and profile pictures. Several techniques, including text- and image-based ones, are utilised to extract features from the obtained data during the feature extraction process.

Throughout the model training stage, machine learning techniques are applied to develop a classifier that can discriminate between real and fake profiles. The last stage of fake profile detection employs the learned classifier to identify and flag suspect profiles. The system can quickly and accurately review enormous volumes of data, making it more effective than manual review or other traditional procedures.

There is reduced chance of false positives or false negatives because the algorithm is highly accurate at recognizing fake profiles. The system can respond to changes in the kinds of false profiles that are produced since it can learn from new data and update its algorithms as appropriate.

Since the system doesn't rely on personally identifiable information (PII), user privacy is maintained. Even though the system may require an initial financial investment for creation, continuing expenses for operating and maintaining the system are probably cheaper than those of human review or other traditional procedures.



1. Input parameters for detection:

The screenshot shows a web interface titled "Profile Verifier". At the top, it displays "View this is mobile : http://192.168.0.103:5000" and "User: shreya". The main heading is "Your Input Values". Below this, there is a table of input parameters:

caste1	Adi Andhra
degree	B.Ed (Education)
employed1	Not Working
income1	INR 3 lakhs to 4 lakhs
mother1	Bihari
occupation	Agriculture
religion1	Muslim

Below the table is a blue button labeled "Predict Now".

2. Detection of fake Profile on Matrimonial Websites:

The screenshot shows the same "Profile Verifier" interface. The main heading is "This Profile is: Fake". Below this, there is a table of input parameters, identical to the one in the previous screenshot:

caste1	Adi Andhra
degree	B.Ed (Education)
employed1	Not Working
income1	INR 3 lakhs to 4 lakhs
mother1	Bihari
occupation	Agriculture
religion1	Muslim

IV. CONCLUSION

Customers and service providers are worried about fake marriage accounts on websites. Finding fake profiles is essential if these platforms are to be trusted and legitimate. In this paper, we provide a method for detecting bogus matrimonial site profiles that is based on artificial intelligence (AI). The suggested approach uses social network





analysis methods and machine learning algorithms to recognise and flag suspect accounts. To increase the trustworthiness and authenticity of the platform, the method may be included into the design of already-existing marriage websites. The new method might be expanded to find fake accounts on other social media networks, which could further ban dishonesty. Technology on marriage websites reduces fraud, identity theft, and other fraud, enhancing user trust.

#### Future Enhancement-

To examine additional types of data, such as profile photographs and other multimedia files, modify the system. The system may identify suspicious or modified profile photographs using computer vision algorithms like image or face recognition. Examining new data modalities may improve false profile detection and user profile understanding.

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