(54) Title of the invention : Fake Profile Identification on Social Media Using Machine Learning Algorithms

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		  1)MR. JOYDEEP KUNDU Assistant Professor
		  Address of Applicant :BRAINWARE UNIVERSITY, WEST BENGAL ----------- -----------
		  2)DR. SANJAY KUMAR SEN Associate Professor
		  3)MR. SUMIT ROY Assistant Professor
		  4)DR. PAYEL SENGUPTA Assistant Professor
		  5)DR. DAIZY DEB Associate Professor
		  6)DR. KASHI NATH DATTA Assistant Professor
		  7)MR. NILOY BISWAS Assistant Professor
		  8)MR. NITYANANDO MAHATO Assistant Professor
		  9)MR. SAYON DEY Assistant Professor
		  10)MR. SHOUVIK DEBNATH Assistant Professor
		Name of Applicant : NA
		Address of Applicant : NA
		(72)**Name of Inventor :**
		  1)MR. JOYDEEP KUNDU Assistant Professor
		Address of Applicant :BRAINWARE UNIVERSITY, WEST BENGAL ----------- -----------
		  2)DR. SANJAY KUMAR SEN Associate Professor
		Address of Applicant :BRAINWARE UNIVERSITY, WEST BENGAL ----------- -----------
		  3)MR. SUMIT ROY Assistant Professor
		Address of Applicant :BRAINWARE UNIVERSITY, WEST BENGAL ----------- -----------
		  4)DR. PAYEL SENGUPTA Assistant Professor
		Address of Applicant :BRAINWARE UNIVERSITY, WEST BENGAL ----------- -----------
		  5)DR. DAIZY DEB Associate Professor
		Address of Applicant :Brainware University Barasat ----------- -----------
		  6)DR. KASHI NATH DATTA Assistant Professor
		Address of Applicant :BRAINWARE UNIVERSITY, WEST BENGAL ----------- -----------
		  7)MR. NILOY BISWAS Assistant Professor
		Address of Applicant :Brainware University Barasat ----------- -----------
		  8)MR. NITYANANDO MAHATO Assistant Professor
		Address of Applicant :BRAINWARE UNIVERSITY, WEST BENGAL ----------- -----------
		  9)MR. SAYON DEY Assistant Professor
		Address of Applicant :BRAINWARE UNIVERSITY, WEST BENGAL ----------- -----------
		  10)MR. SHOUVIK DEBNATH Assistant Professor
		Address of Applicant :BRAINWARE UNIVERSITY, WEST BENGAL ----------- -----------

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(57) Abstract :
The rapid growth of social media platforms has led to an increase in the number of fake profiles—accounts created with deceptive intent to spread misinformation, conduct scams, impersonate users, or manipulate public opinion. These profiles pose significant security, privacy, and trust challenges for both users and platform providers. Traditional detection methods, such as manual moderation or rule-based filters, are insufficient due to the scale and sophistication of modern fake accounts.This study presents a machine learning-based approach for identifying fake profiles by analyzing a combination of profile attributes, user behavior, content patterns, and social network interactions. Various classification algorithms, including Random Forest, Support Vector Machines (SVM), and Logistic Regression, are evaluated using a labeled dataset. Feature engineering techniques are employed to extract meaningful indicators that distinguish real from fake accounts. The proposed system is designed to be scalable, adaptable, and capable of real-time detection.The results demonstrate high accuracy and robustness, with the ability to generalize across different social media platforms. The inclusion of explainable AI techniques ensures transparency in decision-making, making the system suitable for practical deployment. This research contributes to enhancing online safety, reducing the impact of digital deception, and supporting the development of trustworthy social media environments.

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