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In Collaboration with  
UNIVERSITY of WESTMINSTER

**Automated Deception Detection System Using Human  
Facial Emotions and Eye Blinking**

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## **ABSTRACT**

Deception detection plays a critical role in high-stakes situations like suspect interrogations, as it greatly influences the outcome of criminal investigations. The reliability of a suspect's confession is crucial for solving a case, making the process of suspect interrogation with evidence vital. However, manual deception detection poses significant challenges for detectives due to several reasons, including the extensive time required, lack of specialization in deception detection techniques, susceptibility to human biases, and the need for additional detective resources. These factors have rendered manual deception detection a difficult and arduous task.

To address these challenges, researchers have explored various automated deception detection approaches. These approaches aim to alleviate the limitations of manual detection and enhance the efficiency and accuracy of the process. However, it is important to acknowledge that these automated approaches also have their own set of limitations, which can result in inaccurate and invalid results. Therefore, further research and development are necessary to overcome these limitations and improve the effectiveness of automated deception detection systems in criminal investigations.

**Keywords:** Deception Detection, eye blinking, Interrogations, Non-Verbal Indicators, Criminal Investigations, Deep Learning Model