



FINAL YEAR PROJECT REPORT

AI GESTURE CONTROL SYSTEM

**In fulfillment of the requirement
For degree of
BS (COMPUTER SCIENCES)**

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We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

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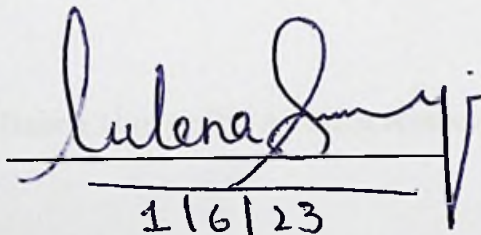
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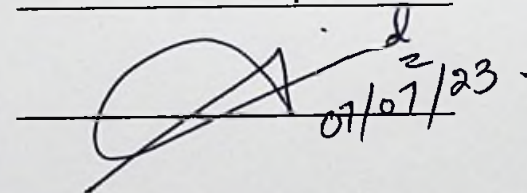
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ABSTRACT

The technique of establishing a process of interaction between human and computer is evolving since the invention of computer technology. This project introduces a gesture-controlled mouse system that enables users to control computer cursors and perform all mouse operations using hand gestures such as left clicks, right clicks, and double clicks, scrolling up or down using their hand in different gestures. The system has also been implemented for ATM machines, allowing users to perform various ATM functions. By leveraging computer vision techniques, specifically the MediaPipe library in Python and OpenCV, hand gestures captured by a webcam or built-in camera are tracked and recognized in real-time. The system achieves high accuracy in gesture recognition, providing a convenient and intuitive user experience. The technology and technique employed in this project enable device-independent interaction, enhancing accessibility and usability in various domains. The system demonstrates efficient response times, allowing users to seamlessly control computer cursors and perform ATM operations. Overall, this project showcases the effectiveness of the MediaPipe and OpenCV technologies in developing gesture-controlled systems for improved human-computer interaction.

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