Project Title

Advanced E-Gate Access Control and Management System for CBIT

Project ID: 69

ABSTRACT

This project entails the development of an AI-Enhanced E-Gate Management System tailored for CBIT College, aimed at fortifying campus security and optimizing operational efficiency through the application of advanced artificial intelligence and machine learning technologies. The core objective is to automate the identification and regulation of individuals and vehicles at the campus entry points, ensuring that access is restricted to authorized personnel only.

The system integrates Face Recognition technology to accurately detect and authenticate the identities of students, faculty, and staff by matching facial data with records stored in the college's centralized database. In addition, ID Card Recognition is employed to verify the credentials presented against institutional records, while Automatic Number Plate Recognition (ANPR) technology is utilized to identify and validate vehicles, ensuring that only those registered to authorized users are granted access.

A critical component of the system is Role Verification, which categorizes incoming individuals as students, faculty, or guests, and assesses their current status (e.g., active student, staff member) to authorize appropriate access levels. The system also implements comprehensive Entry and Exit Tracking, capturing and logging all access events to maintain a historical record for detailed reporting and security analysis. Furthermore, an Online Gate Pass System is integrated, enabling students to request and obtain approval for campus exit, with the pass status seamlessly verified at the gate.

Real-time monitoring is supported through an advanced Security Dashboard, providing security personnel with live access attempt data and instant alerts in cases of unauthorized access or security breaches. This system ensures a robust, scalable, and secure solution for managing campus access.

Name and Signature of the Supervisor

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