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Design and Fabrication of Mechanical Parking System

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Abstract: *The increasing demand for parking spaces in urban areas has necessitated the development of efficient and space-saving parking solutions. This project focuses on the design and fabrication of a Mechanical Parking System (MPS), which aims to address the challenges of limited parking space while enhancing the overall convenience and efficiency of parking in crowded environments. The proposed system utilizes mechanical automation to vertically and horizontally move vehicles, thereby maximizing the use of available space.*

The design incorporates a set of mechanical components, including elevators, conveyor systems, and rotating platforms, to enable the stacking and retrieval of vehicles in a controlled and systematic manner. A key feature of the system is its modular structure, which allows for scalability and adaptability to various building layouts and parking capacity requirements. The project also emphasizes the integration of safety features such as load sensors, emergency stop mechanisms, and user-friendly control interfaces.The fabrication process involves precision engineering and the use of durable materials to ensure the system's reliability, longevity, and minimal maintenance. A prototype of the mechanical parking system is constructed to demonstrate its operational feasibility, showcasing its ability to reduce parking congestion and improve space utilization. The successful implementation of such systems could significantly alleviate urban parking issues and contribute to the development of smarter, more sustainable cities.This project serves as a prototype for future advancements in automated parking technologies, offering a practical solution to an ever-growing urban challenge..

Keywords: parking spaces

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