

# Smart Regenerative Breaking System with Auto Braking System

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**Abstract:** The Smart Regenerative Braking System with Automatic Braking Feature aims to improve vehicle efficiency and safety by recovering the kinetic energy normally lost during braking and converting it into usable electrical energy. The system uses a dynamo-based regenerative mechanism to store the generated energy in a battery, reducing overall power consumption. In addition, a proximity-sensor-based automatic braking feature is integrated to detect obstacles and apply brakes without driver intervention, preventing potential accidents.

**Keywords:** Regenerative breaking, Energy recovery, Automatic breaking, Obstacle detection