

Rain Sensing Automatic Car Wiper with Voice Command

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Abstract: *The automatic wiper system for vehicles is an innovative solution that enhance driver convenience and safety by automating the windshield cleaning process. Utilizing an Arduino Nano microcontroller, this system integrates a rain sensor and SG90 servo motor to detect rain or water on the windshield and activate the wiper accordingly. The servo operate in a 0-180 degree range, ensuring effective cleaning. Additionally, an AI Thinker – based offline voice command module allow user to control the wiper via voice command, adding a hand-free operational mode. A red LED indicator lights up when the wiper are active, ensuring a clear status indication. The entire system is powered by a 5V 2A power adapter, providing a reliable and efficient operation. This project aims to reduce driver distraction and enhance safety, especially in sudden rain sensor rain scenario, making it a practical addition to modern vehicles.*

Keywords: Automatic, Sensing, Wiper, Arduino, Rain sensor module, Voice command module