FBC: A Robotic System Designed to Prevent Avian Nesting on Residential Balconies

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Homeowners around the world face the challenge of birds attempting to nest on their balconies, despite the availability of many products on the market designed to deter birds. These birds have proven adaptability to the existing products, and their presence on balconies can be disruptive and hazardous. My project aims to provide an effective, safe, and aesthetically pleasing solution that is comparable with other products on the market, utilizing a simple installation method. The system comprises a compact box installed on the balcony that encloses a camera, motor system, and a laser pointer. The camera uses computer vision to detect birds within the balcony area, and the motor system, together with the laser pointer, drives the bird away from the detected location. The laser pointer is safe and poses no threat to individuals or birds near the device. Once installed, the system operates independently, providing an easy solution for homeowners to prevent birds from nesting. To date, a prototype of the system has been built and tested on balconies and rooftops of buildings, successfully driving away all pigeons that visited the test locations. Notably, during the experiments, the birds were not confined in any way and were free to come and go from the balconies and rooftops without restriction. The pigeons involved in the experiments were localized in the same urban area where the system was tested. The bird's response to the laser has been tested in other studies, and this project solely focuses on building a system that repels birds using this principle.

Awards Won:

Patent and Trademark Office Society: Second Award of $500