

Final Report Summary

A Feasibility Study into Bird Detection by Optical Means



Robop Ltd
www.robop.co.uk



Institute for System Level Integration
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Robop is a manufacturer of intelligent bird-repelling systems. Its main product is a robotic bird of prey (Robop) that looks and sounds like a real Peregrine Falcon, a predator of over 100 species of bird. It has been exported all over the world and is typically mounted on rooftops to deter birds from landing, feeding and nesting in its vicinity. It has been particularly popular with customers trying to deter Gulls. Each year Gulls cause significant damage to property in Scotland and the rest of the UK. A particular problem has been the blocking of roof drains after heavy rainfall has washed feathers, nesting material and food remnants into the drains. This has led to large volumes of water collecting until the roof is breached. The resultant flood can destroy stock and prevent the company from operating. The traditional approach is to cover the entire roof with nets. For large roofs this is extremely expensive and makes roof access for maintenance very difficult. Robop by contrast is much cheaper to install and leaves the roof completely free.

The Robop product has been very successful but it has been found that a small number of Gulls can become resistant to its presence. Robop believe that this can be overcome by finding a means to enable the robotic bird to sense the presence of the Gulls and initiate an aggressive threat response.

Project Aim

The aim of the project was to investigate means of optically detecting birds at a range of distances using a low cost system solution. Robop chose iSLI as TTOM partner based on its in-house knowledge of camera system development and experience in the system level integration of complex hardware and software components.

Project Outcomes

The partnership of iSLI and Robop during the TTOM project has resulted in the development of a low-cost machine vision system capable of detecting birds at up to approximately 50m. Careful tuning of the system was required to reduce false alarms yet still make the system sensitive enough to sense birds at distance. In addition, an interface has also been incorporated to allow Robop to connect the system to its robotic bird of prey and hence trigger an aggressive threat response when birds are detected in the field of view. Robop now plans to use the system to perform further testing at customer sites. The project has enabled iSLI to build a strong relationship with Robop which will form the base for future collaborative work.

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