

From: [Dremin Igor M.](#)
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Subject: Calling for Research Papers
Date: 2019年11月19日 23:20:45



Dear Xu, J; Xie, M

Good day!

The paper published in *INTELLIGENT ROBOTICS AND APPLICATIONS (ICIRA 2015), PT III* with the title *Iterative Template Matching Strategy for Visual Target Detection by Unmanned Surface Vehicle* has impressed us deeply. The paper has drawn widespread attention from researchers and scholars in related fields.

Here attached the details of your research which has gave us a deep impression:

Title: Iterative Template Matching Strategy for Visual Target Detection by Unmanned Surface Vehicle

Keywords: Iterative template matching; Visual target detection; Unmanned surface vehicle

Abstract: The development of USV (Unmanned Surface Vehicle) has boomed around the world for military, research and commercial applications. The full autonomy of the USV is a desirable but challenging task. Though GPS is the main sensing system for the vehicle's positioning and guidance, vision is necessary for tasks such as visual target detection and identification, especially color and shape encoded information. This is well demonstrated in the Maritime RobotX challenge 2014, where all of the five competition tasks require the use of vision to complete. The visual target detection for USV is a challenging task as the platform and target are always moving in the open sea area and the lighting condition varies a lot accordingly to weather and time. For real-time onboard performance, template matching is a good choice for the visual detection. In certain scenarios, the normal template matching method needs to be enhanced for robust performance. One of the example algorithm is the proposed iterative template matching, which provides a fast and robust solution for the vision tasks in the Maritime RobotX challenge 2014. By an additional step of searching for the visual context for the target, the robustness of detection is significantly improved without loss of accuracy.

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