

Modular Tracking

Leon Oleschko

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1 Introduction

Real-time object tracking is a core challenge in computer vision and robotics. This project focuses on moving a camera to track a ping pong ball during gameplay, which presents a unique combination of steady ballistic flight and rapid, complex bounces at high speeds. These dynamics make it an interesting platform to explore and evaluate detection, tracking, and control strategies.

To simplify the exploration of different strategies, the system is designed with modularity and accessibility in mind. Each component is built around high-level concepts, enabling users to experiment without requiring an in-depth engineering background.

2 Methods

2.1 Hardware

2.2 Software

3 Results

4 Conclusion and Outlook