Identifying Common Features Found in an Image

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Module Overview

- Understand feature detection

- Implement corner detection

- Introduce template matching

- Implementation of a simple template matching system
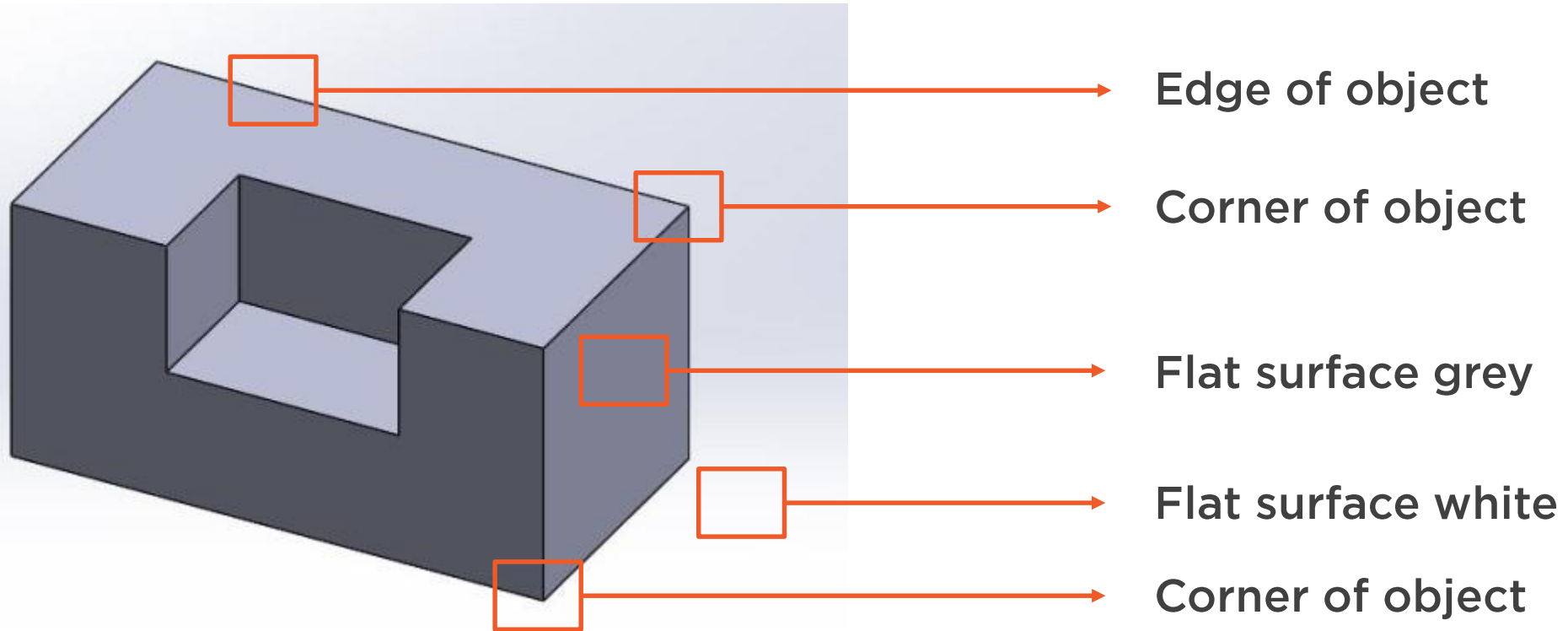
- Introduce feature matching

- Implementation of a simple feature matching system

Understanding Feature Detection

Feature

A piece of information which is relevant for solving the computational task related to a certain application.

Image Features

Feature Detection

The process of finding or detecting image features.

Common Feature Detection Methods

Harris Corner Detection	**Shi-Tomasi Corner Detection**	**SIFT**
SURF	**SLAM**	**FAST**

Feature Description
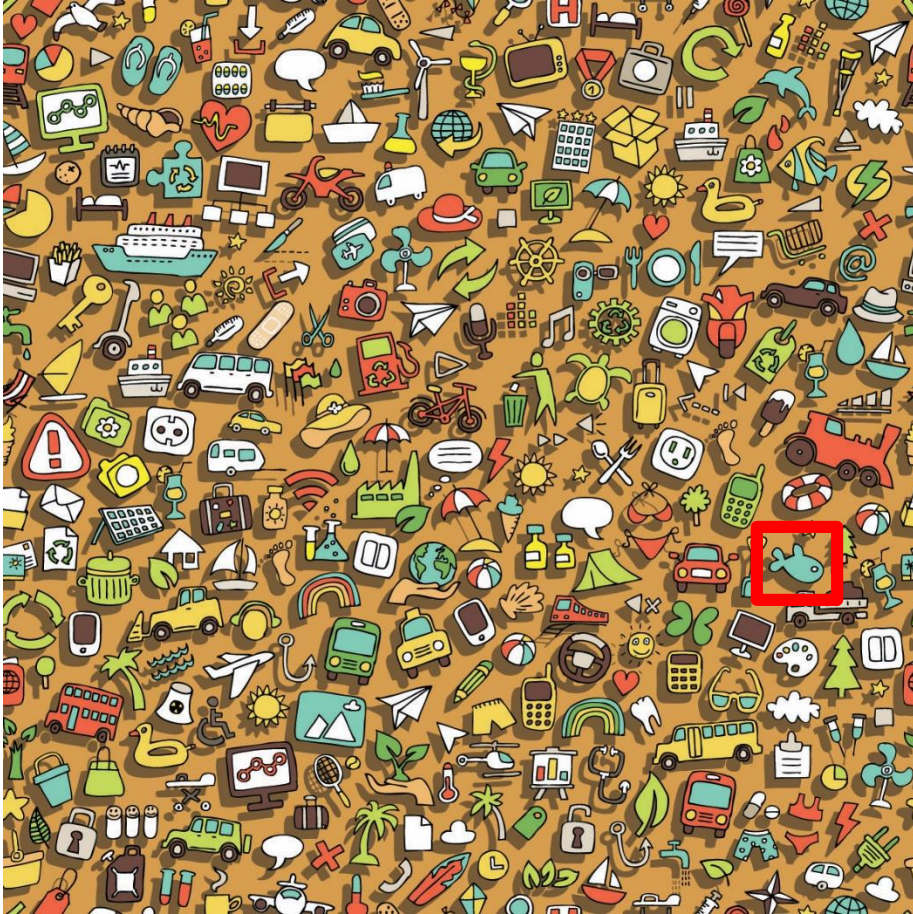
The process of describing image features.

Implementing Corner Detection

Implementing Template Matching

Template Matching

A method for searching and finding small parts of a larger image which match a template image.

Template Matching

Original Image

Template Image

Implementing Feature Matching

Feature Matching

A method for matching features from one image to other images.

Summary

Introduced and understood image features and feature detection

Implemented corner detection

Introduced and implemented template matching systems

Understood and implemented feature matching systems