

Flipped Classroom (AKA Inverted Classroom)

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What is flipped?

- Pre-recorded initial information transfer
- Many different approaches: video, audio, worksheets, books, ...
- Here: also interactive teaching, rather than one-way

Example – Advanced Vision

- Learn VLE used
- Video clips – topic based, 60+ c. 15 minute topic chunks
- Associated PDF
- Associated drill Q&A
- Learn structure
- References, links, readings, ...
- [https://www.learn.ed.ac.uk/webapps/blackboard/content/listContent.jsp?course id= 62486 1&content id= 2997181 1](https://www.learn.ed.ac.uk/webapps/blackboard/content/listContent.jsp?course%20id%3D62486%201&content%20id%3D2997181%201)

Course Section Top Level

Advanced Vision (Level 11) (2018-2019)[SV1-SEM2]



System 1 : Flat Part Recognition

- Advanced Vision (Level 11) (2018-2019)[SV1-SEM2]
- Course information
- Course introduction
- System 1 : Flat Part Recognition
- System 2: Deforming Flat Part Recognition
- System 3: Detecting and tracking objects in video
- System 4: Range data

System 1 : Flat Part Recognition



Overview

We use some simple flat rigid shapes to introduce the general principles of model-based recognition, including model matching, pose estimation, and hypothesis verification. We also introduce methods for finding the straight line segments that make up the part's boundary.

Here are [all small PDF files concatenated](#)



1. Rigid flat part recognition introduction

We introduce a simple flat rigid part recognition system that is based on matching part edges to a geometric model. This will also require estimating the reference frame transformation that maps the model onto the

Each of 60 short videos

Lecture Slides (PDF)

A PDF copy of the slides used in this module. Use the "Quarter Size with boxes" to enhance your learning by filling in the boxes as you watch the video.

- [Full Size](#)
- [Quarter Size with boxes](#)
- [Quarter Size](#)

Lecture video

Watch the following lecture video (8 minutes):

- [MP4](#)

Review Question and Answer

Click on the Question to test your understanding of the video you just watched.

If you feel confident, then click on the Answer. Otherwise review the video and slides and supplementary readings.

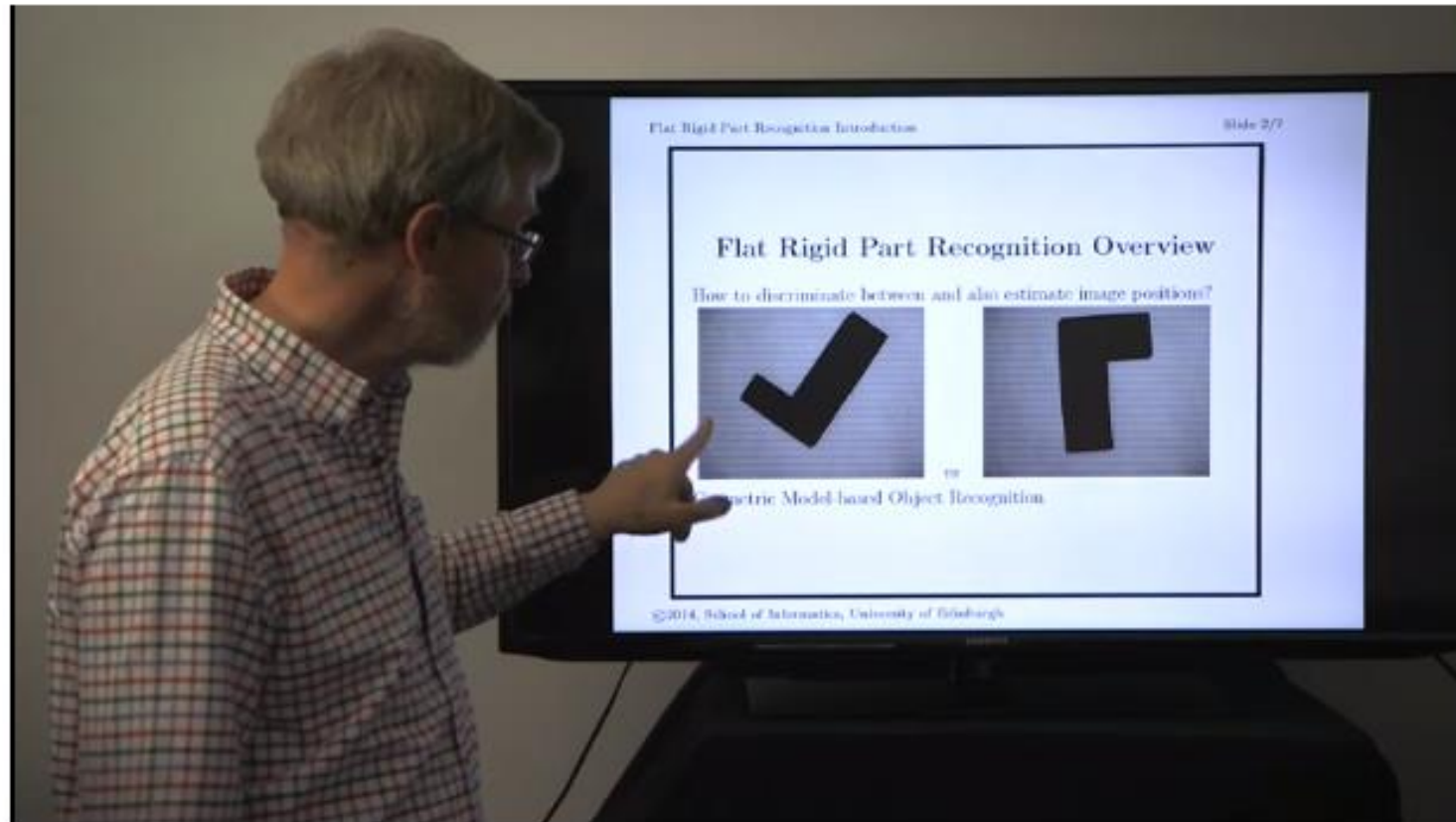
- [Question](#)
- [Answer](#)

Pre-recorded Videos

Home

How to use Media Hopper Create ▾

All Channels



Advanced Vision: Rigid flat part

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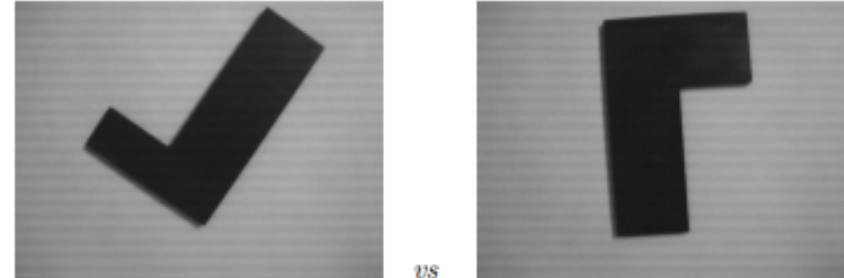
Associated Slides for Video

Flat Rigid Part Recognition

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School of Informatics
University of Edinburgh

Flat Rigid Part Recognition Overview

How to discriminate between and also estimate image positions?



vs

Geometric Model-based Object Recognition

Overview

Geometric Model-based Rigid Object

Motivation - automated visual inspection

Manufacturing



Media Hopper

Two Separate Services

Media Hopper Create – user uploaded videos

Media Hopper Replay – automatically recorded classroom videos
useful for recording classroom activities

Both give URLs that you can embed into your Web page / Learn page

MHR sidebar link

What do we do in class?

- Answer questions emailed by students wrt videos / readings
- Answer live questions
- Mini tutorial activities: nearby students in groups of 6-8, discuss pre-prepared question related to recent videos, a bit of whole-class discussion at end
- Review previous exam
- Discuss recent 'computer vision in the news'
- Discuss anything students ask about
- Use Document Camera for recordable drawing

What else could one do?

- Learn: Quizzes
- Learn: Track video watching
- Discussion Boards: Learn or Piazza
- Guest speakers
- Mini-lectures / summaries and overviews
- Self-drill worksheets
- Supported lab sessions
- Live coursework demos
- In-class worked examples
- Review of materials for tough issues

Why bother?

- Students 90+% enthusiastic
- Replay video options for non-English speakers
- Flexible engagement for student situations

- More enjoyable teaching than standard lecturing

Questions?