

Computational Semantics with Pictures

Lecture 2 - The Data

Project Module, Summer 2019
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organisational matters

- you will need access to our file & compute server
- you can get an account from Siegfried Wrobel & assistants (2.25 or 2.21)

Recap

language & the world (via vision)

A couple of women standing on a tennis court shaking hands.

Two female tennis players shaking hands across the net.

Denotation



Implication

Situations

A woman in sandals stands next to clocks.

A woman's feet standing next to four clock faces on a floor.



language (via large

word meaning

meaning composition

Denotation

Implication

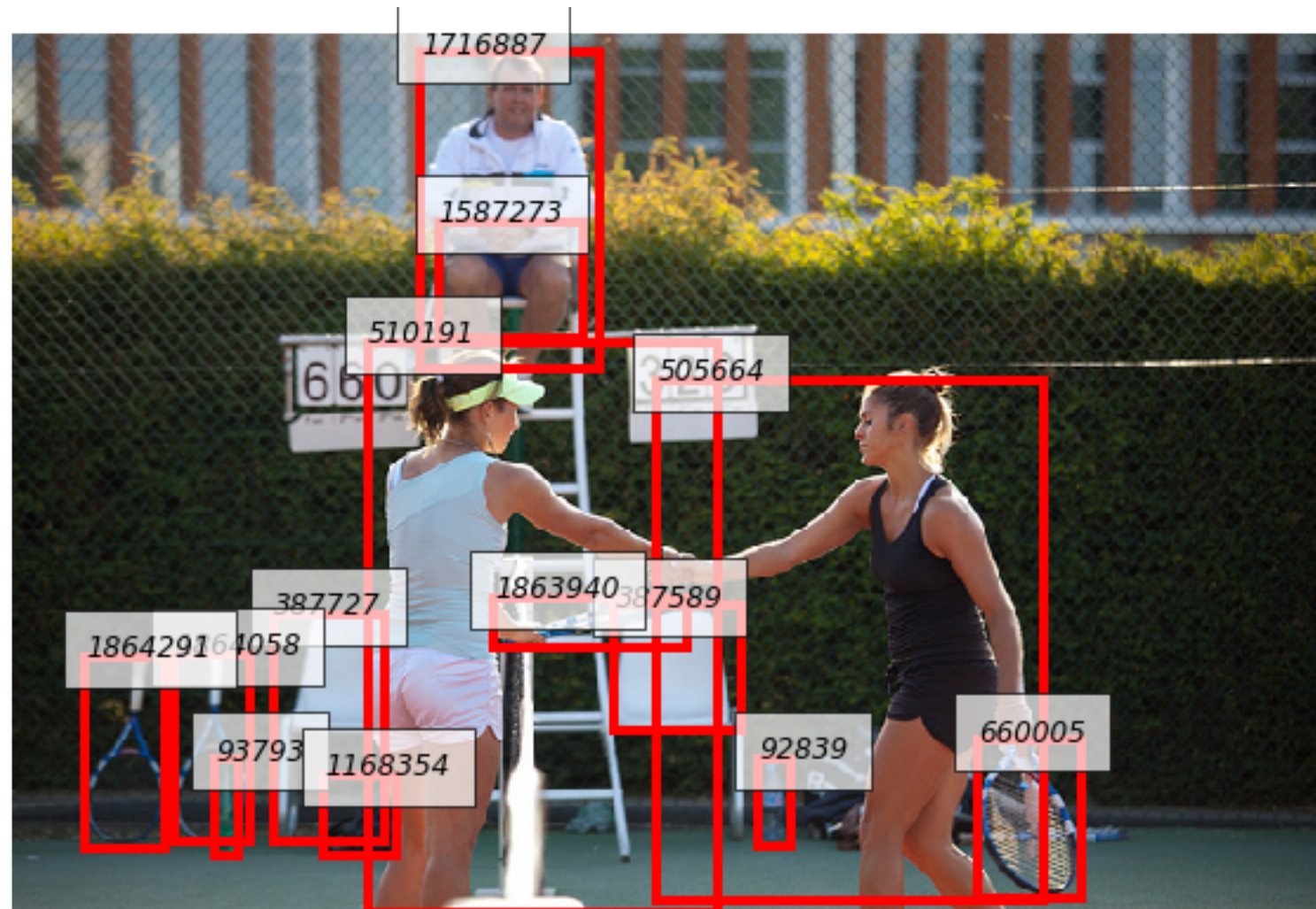
Situations

0	ade_imgdf	19733
1	ade_objdf	550545
2	ade_reldf	146392
3	cococapdf	414113
4	cocoent_capdf	592881
5	cocoent_objdf	1182608
6	cocogrprops_bbdf	17184
7	cub_attrdf	371011
8	cub_bbdf	11787
9	cub_capdf	117870
10	cub_partdf	141395
11	flickr_bbdf	275775
12	flickr_capdf	158915
13	flickr_objdf	559767
14	grex_refdf	95010
15	gw_df	821889
16	mscoco_bbdf	604907
17	mscoco_catsdf	80
18	refcoco_refdf	142210
19	refcocoplus_refdf	141564
20	saiapr_bbdf	99534
21	saiapr_refdf	120081

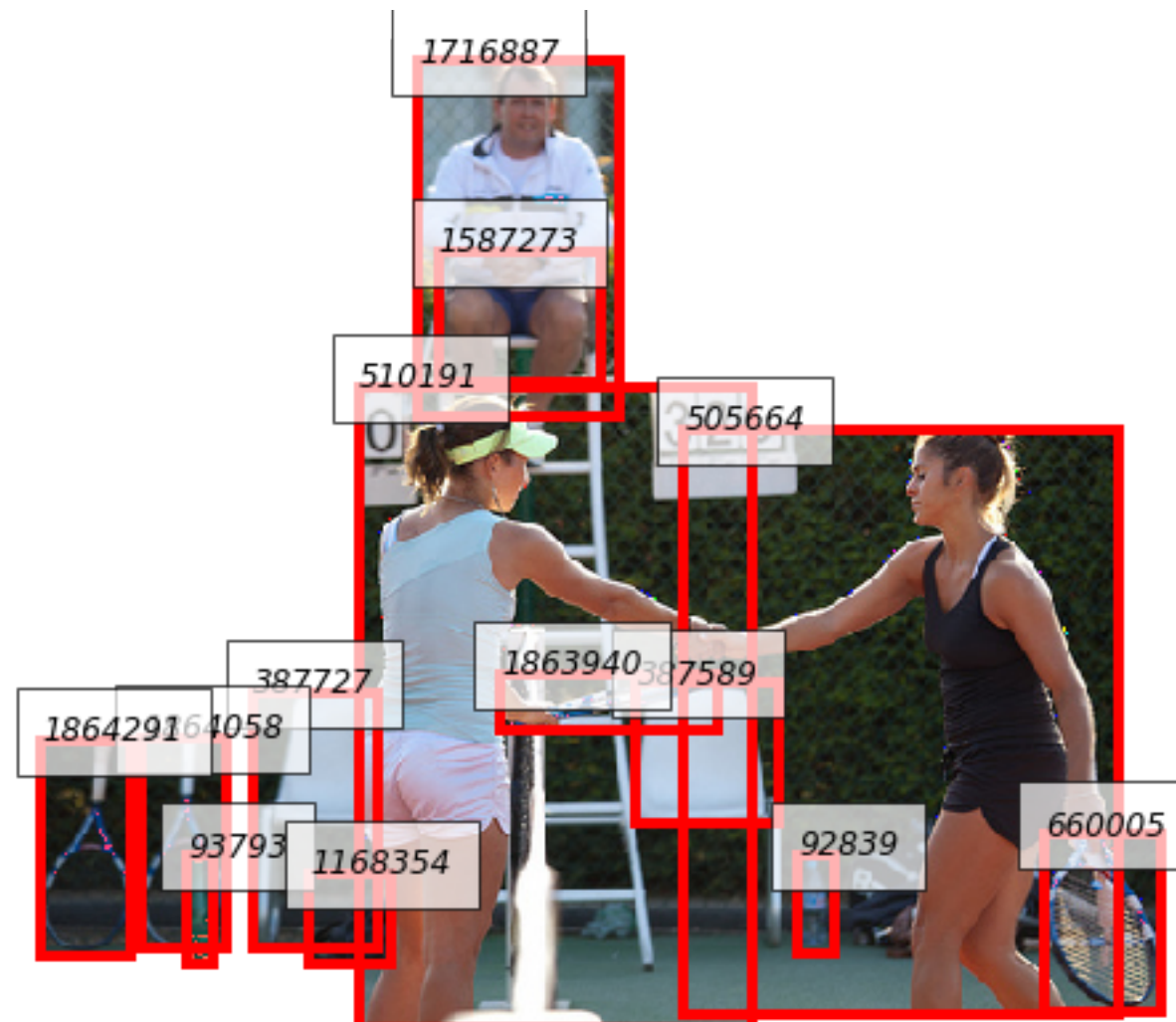
last week

- the topic in a nutshell
- but why is this interesting?
 - the cognitive / phil. of mind & language perspective
 - the formal perspective
 - the applied perspective
- organisational stuff

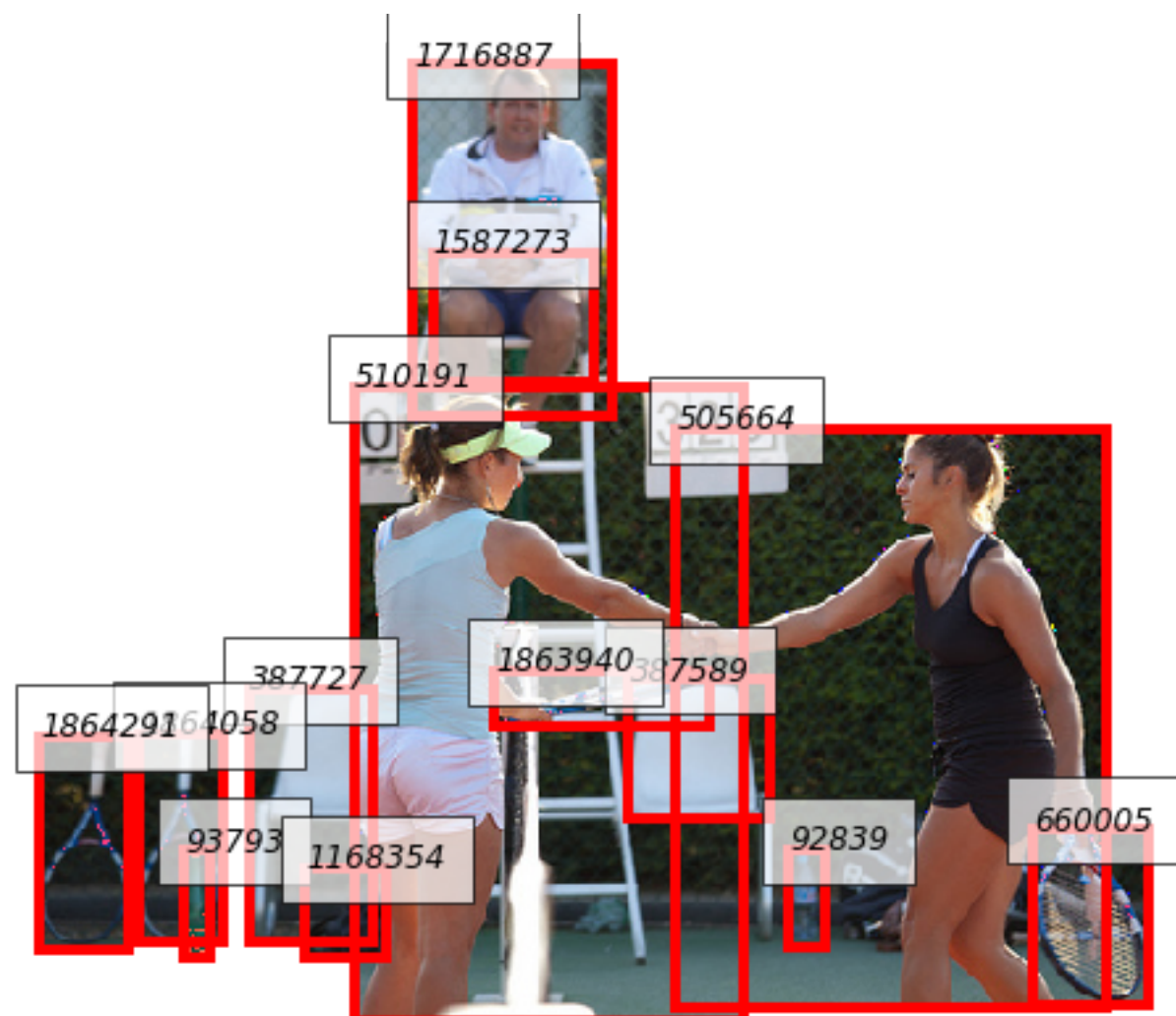
formal semantics for language & vision



formal semantics for language & vision



$$D = \{o_{92839}, o_{93793}, o_{387589}, o_{387727}, o_{505664}, o_{510191}, o_{660005}, o_{1168354}, o_{1587273}, o_{1716887}, o_{1863940}, o_{1864058}, o_{1864291}\}$$



	region_id	refexp
98	510191	woman in white
99	510191	female in white shorts and hat
100	510191	blue shirt
101	505664	lady in black on right
102	505664	girl in black
103	505664	woman in black
93	510191	player in light clothes
94	510191	white player
95	510191	woman in white shorts
96	505664	black shirt
97	505664	girl in black
98	505664	player in black
66082	505664	woman in black tank top and shorts holding tennis racket
66083	505664	woman in black outfit shacking other tennis player hand
66779	510191	a woman in white shorts
66780	510191	a woman in a visor shaking hands with a woman in black

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$$I(woman) = \{o_{505664}, o_{510191}\}$$

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today

- Intro (cont.)
 - Annotated Relations, Derived Relations
 - Implications
- The Data
 - Where it comes from
 - How to play with it

this course

- Intro
- The Image Corpora
- Tasks / Datasets
 - treat as attested language examples, do linguistic analysis
- Standard Models: Image Captioning w/o & w/ Attention; Referring Expression Resolution; VQA; VisDial

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Implication

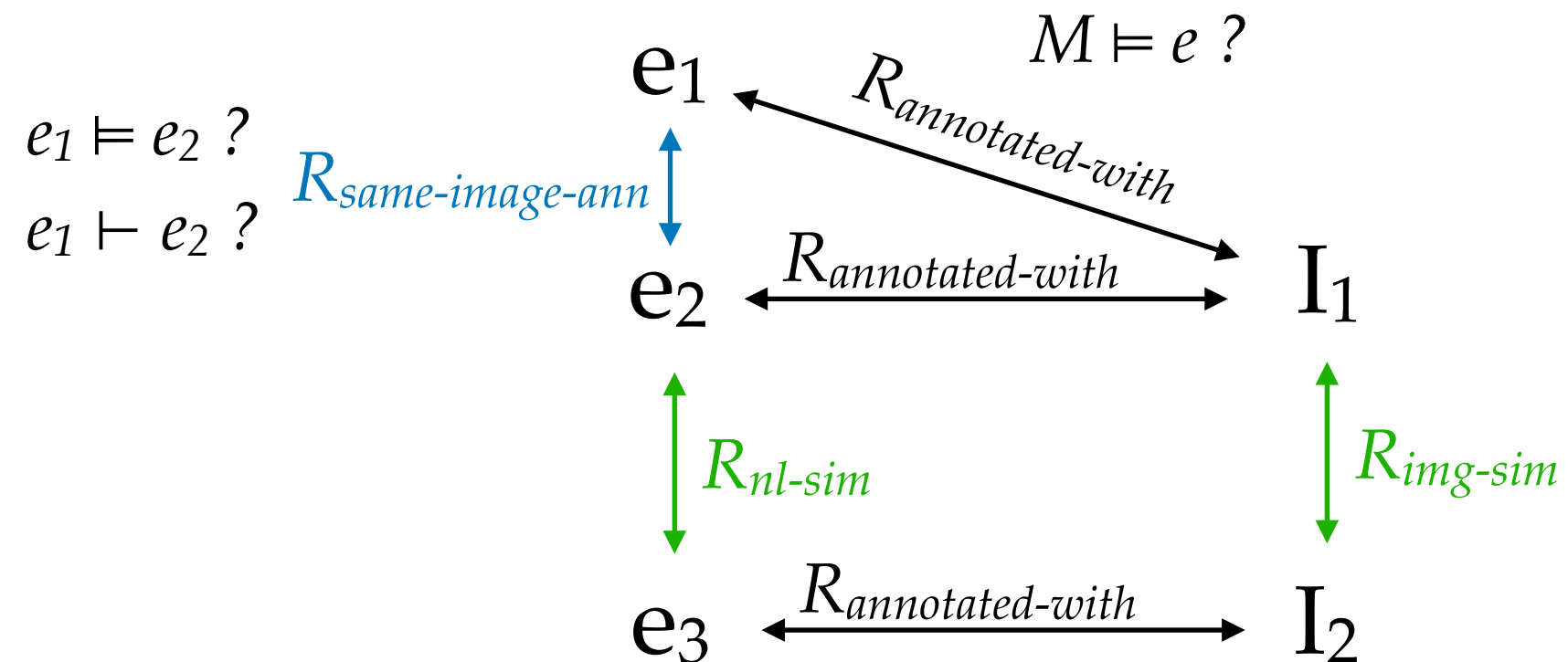
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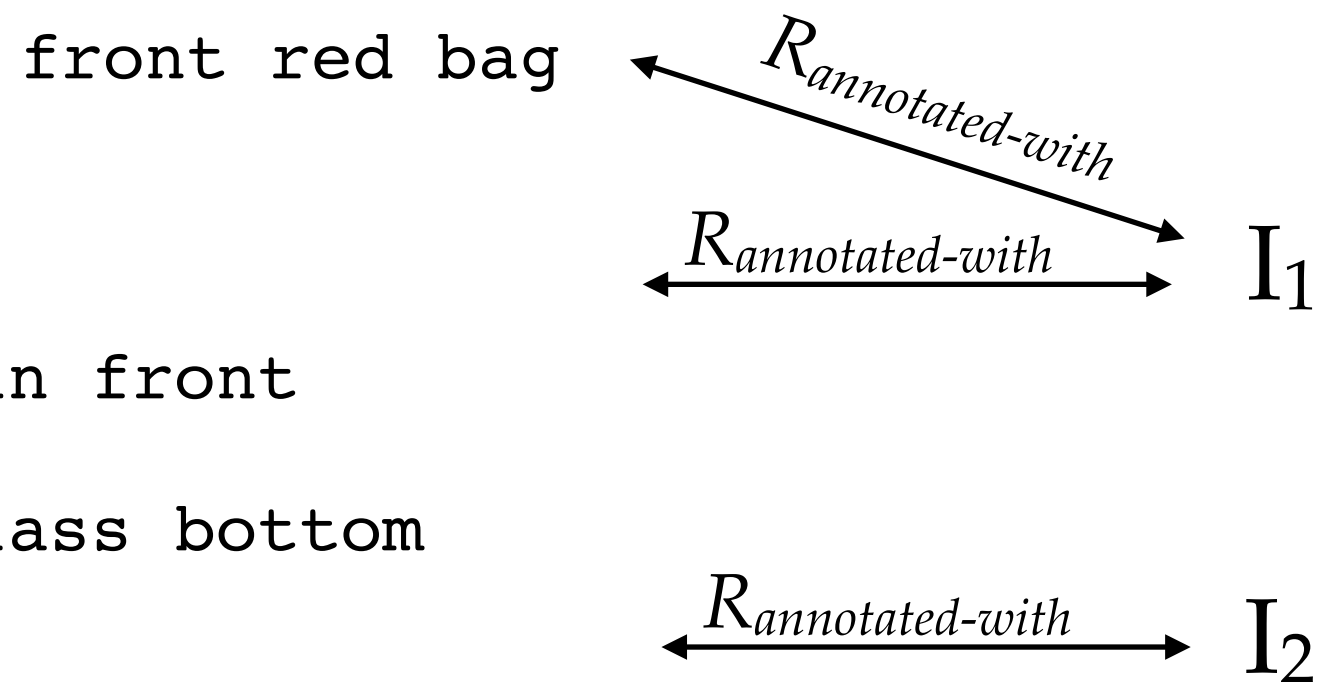
Types of relations



today

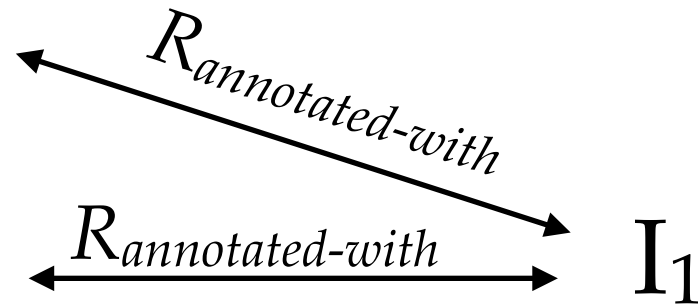
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Types of relations



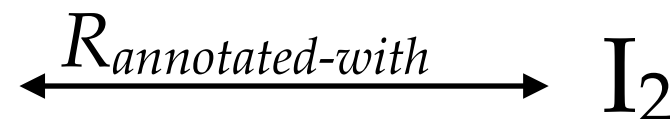
Types of relations

guy on left with back turned to us
who does he think he is



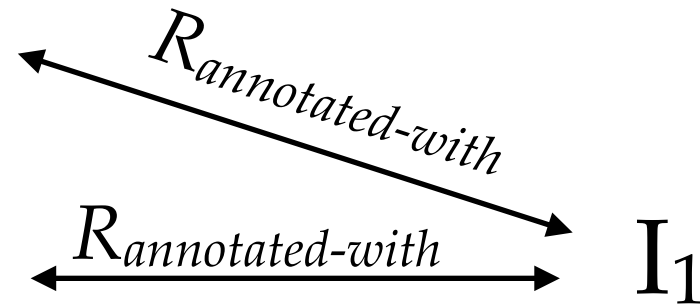
left kid

left cop

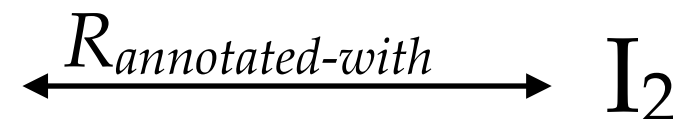


Types of relations

A restroom is featured with multiple
sinks and hand soap.



A cluttered living room is shown
with the TV on.



a bathroom with three sinks
and thre mirrors

today

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- see notebook

Homework

- Familiarise with image corpora
- Read my paper on this. (In repo, in 01_SemPix.)