

TagProp: Discriminative Metric Learning in
Nearest Neighbor Models for Image
Auto-Annotation

M. Guillaumin, T. Mensink, J. Verbeek and C. Schmid
LEAR team, INRIA Rhône-Alpes, France

Supplementary Material

Summary

We first present qualitative results on all three data sets (Corel 5k, ESP-Game and IAPR TC12) for the task of keyword-based image retrieval in Chapter [1](#) and next for the task of image auto-annotation in Chapter [2](#).

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Chapter 1

Keyword-based Image Retrieval

In our paper we compare performance of keyword based retrieval, i.e. given a keyword or several, rank the images by relevance. In these sections we show some example queries from all three databases.

We have restricted ourselves to keywords where at least 8 images should have been returned. Because we also show 8 images of each query, in the perfect case all shown images are correct. Images whom are wrongly assigned to a keyword are marked with a red border.

For each of the databases we show examples where our performance is good, median and bad. These scores are based on the *Break Even Point* (BEP) precision evaluation. For each query we show: **query** BEP (nr. of relevant images).

For the Corel database we also show multi-word queries.

1.1 Corel Database

1.1.1 Keyword based retrieval – good results

tiger 100.00 (10)



pool 90.91 (11)



cat 90.91 (11)



tracks 90.91 (11)



pillar 88.89 (9)



mare 88.89 (9)



foals 88.89 (9)



1.1.2 Keyword based retrieval – mean results

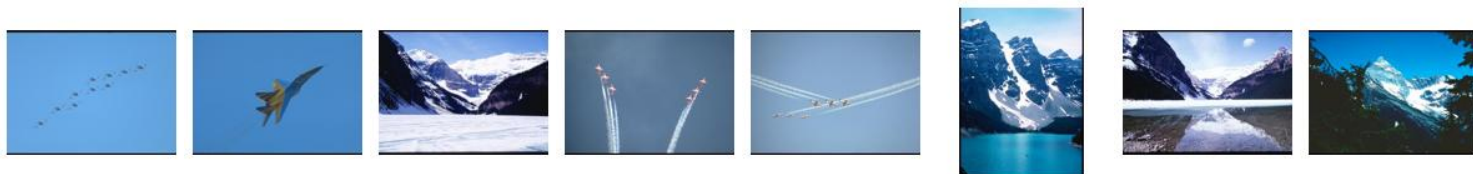
street 61.54 (26)



grass 60.78 (51)



sky 60.00 (105)



plants 60.00 (15)



garden 60.00 (10)



tree 59.14 (93)



field 58.82 (17)



1.1.3 Keyword based retrieval – bad results

shore 37.50 (8)



rocks 36.36 (22)



clouds 34.62 (26)



close-up 30.00 (10)



window 25.00 (8)



hills 22.22 (18)



town 22.22 (9)



1.1.4 Multiword queries retrieval – good results

cars, tracks 100.00 (10)



cat, tiger 100.00 (10)



stone, pillar 100.00 (8)



water, pool 90.00 (10)



horses, foals 88.89 (9)



horses, mare 88.89 (9)



train, locomotive 88.89 (9)



1.1.5 Multiword queries retrieval – mean results

sky, jet, plane 66.67 (12)



buildings, street 66.67 (15)



bear, snow 63.64 (11)



water, people 60.00 (20)



mountain, sky 55.56 (18)



tree, grass 54.55 (11)



mountain, tree 54.55 (11)



1.1.6 Multiword queries retrieval – bad results

tree, house 37.50 (8)



water, beach, people 37.50 (8)



water, bridge 36.36 (11)



sky, tree 34.62 (26)



sky, clouds 33.33 (15)



people, street 25.00 (8)



beach, sand 25.00 (8)



1.2 ESP-Game Database

1.2.1 Keyword based retrieval – good results

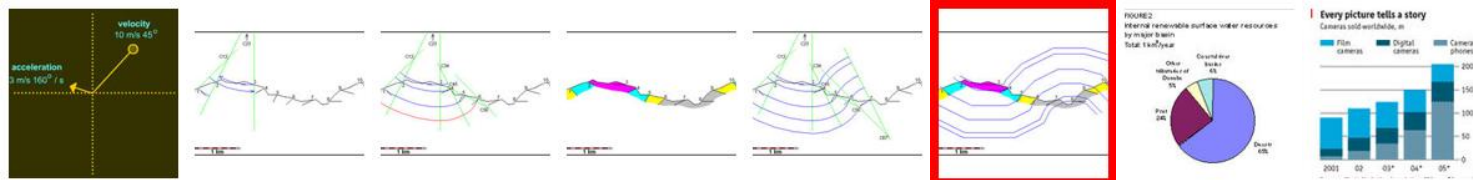
coin 81.48 (27)



money 72.00 (25)



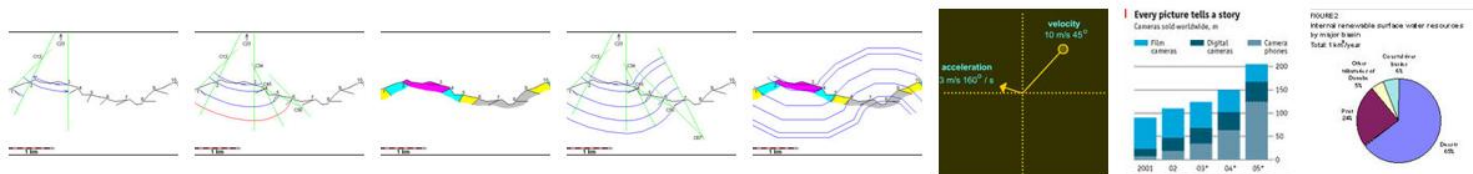
chart 68.42 (38)



map 67.39 (46)



graph 66.67 (33)



necklace 66.67 (15)



sky 63.30 (188)



1.2.2 Keyword based retrieval – mean results

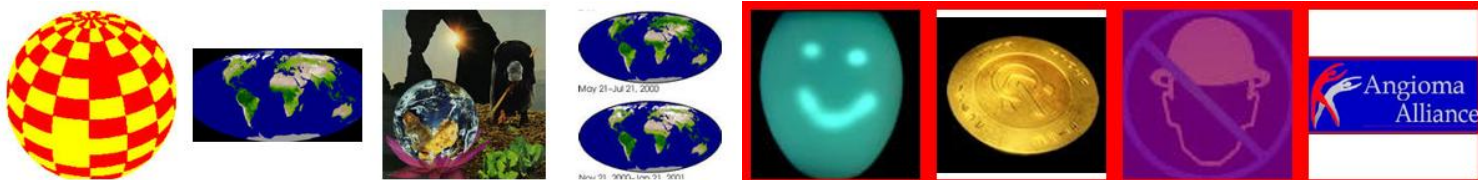
castle 33.33 (12)



comic 33.33 (12)



globe 33.33 (12)



plant 33.33 (48)



road 33.33 (30)



singer 33.33 (9)



horse 32.43 (37)



1.2.3 Keyword based retrieval – bad results

statue 8.33 (12)



letter 7.69 (13)



ear 7.14 (28)



arm 5.56 (18)



album 0.00 (12)



guy 0.00 (13)



ice 0.00 (8)



1.3 IAPR Database

1.3.1 Keyword based retrieval – good results

court 100.00 (18)



tennis 94.12 (17)



racetrack 90.91 (11)



player 87.50 (24)



grandstand 84.62 (26)



cyclist 80.00 (45)



grave 80.00 (10)



1.3.2 Keyword based retrieval – mean results

wood 43.48 (46)



sand 43.33 (30)



column 42.86 (42)



bay 41.94 (31)



woman 41.94 (248)



cliff 41.86 (43)



car 41.77 (79)



1.3.3 Keyword based retrieval – bad results

shoe 9.09 (11)



area 8.33 (12)



body 8.33 (12)



backpack 5.56 (18)



balcony 0.00 (11)



dog 0.00 (10)



paving 0.00 (10)



Chapter 2

Image Annotation

To illustrate the performance of our model on the image annotation task, we show word predictions for a selection of images of the three data sets. Each data set is presented in three sections: “Best predictions”, “Median predictions”, and “Worst predictions”. These sections also relate to the BEP scores of our predictions compared to the ground-truth annotations, but here these BEP scores are computed by ranking keywords for a given image. When ties between BEP scores are observed, the images with the largest annotation sizes are kept.

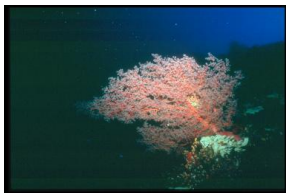
For each image, we show its BEP score, its ground-truth annotations, and the predictions of our model. The ground-truth words are sorted with our model’s output score (shown in brackets), and are **bold** when the word is correctly predicted by our model. Predictions are also sorted with respect to their scores, and are bold if they appear in the ground-truth. We show as many predicted words as there are words in the ground-truth annotation for an image.

2.1 Corel Database

2.1.1 Best Predictions

Image

BEP, Ground Truth, Prediction



BEP: 100%

Ground Truth: **coral** (1.00), **ocean** (1.00), **reefs** (1.00), **fan** (1.00), **sea** (0.99)

Predictions: **coral** (1.00), **ocean** (1.00), **reefs** (1.00), **fan** (1.00), **sea** (0.99)



BEP: 100%

Ground Truth: **field** (1.00), **foals** (1.00), **mare** (1.00), **horses** (1.00)

Predictions: **field** (1.00), **foals** (1.00), **mare** (1.00), **horses** (1.00)



BEP: 100%

Ground Truth: **sun** (1.00), **sky** (1.00), **tree** (1.00), **clouds** (0.99)

Predictions: **sun** (1.00), **sky** (1.00), **tree** (1.00), **clouds** (0.99)



BEP: 100%

Ground Truth: **mosque** (1.00), **temple** (1.00), **stone** (1.00), **pillar** (1.00)

Predictions: **mosque** (1.00), **temple** (1.00), **stone** (1.00), **pillar** (1.00)



BEP: 100%

Ground Truth: **plane** (1.00), **jet** (1.00), **sky** (1.00), **smoke** (0.99)

Predictions: **plane** (1.00), **jet** (1.00), **sky** (1.00), **smoke** (0.99)



BEP: 100%

Ground Truth: **canyon** (1.00), **valley** (1.00), **sand** (1.00), **rocks** (1.00)

Predictions: **canyon** (1.00), **valley** (1.00), **sand** (1.00), **rocks** (1.00)



BEP: 100%

Ground Truth: **bengal** (1.00), **tiger** (1.00), **cat** (1.00), **forest** (1.00)

Predictions: **bengal** (1.00), **tiger** (1.00), **cat** (1.00), **forest** (1.00)



BEP: 100%

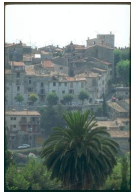
Ground Truth: **black** (1.00), **bear** (1.00), **river** (1.00), **water** (1.00)

Predictions: **black** (1.00), **bear** (1.00), **river** (1.00), **water** (1.00)

2.1.2 Median Predictions

Image

BEP, Ground Truth, Prediction



BEP: 50%

Ground Truth: **buildings** (0.99), **tree** (0.98), hills (0.46), town (0.35)

Predictions: village (1.00), **buildings** (0.99), house (0.99), **tree** (0.98)



BEP: 50%

Ground Truth: **relief** (1.00), **ruins** (1.00), sculpture (0.76), stone (0.73)

Predictions: **relief** (1.00), **ruins** (1.00), wall (1.00), costume (0.92)



BEP: 50%

Ground Truth: **light** (1.00), **buildings** (1.00), city (0.72), street (0.56)

Predictions: harbor (1.00), **light** (1.00), skyline (1.00), **buildings** (1.00)



BEP: 50%

Ground Truth: **clouds** (1.00), **sky** (0.99), desert (0.93), church (0.17)

Predictions: **clouds** (1.00), valley (0.99), **sky** (0.99), sand (0.97)



BEP: 50%

Ground Truth: **mountain** (1.00), **tree** (0.99), sky (0.98), clouds (0.94)

Predictions: hillside (1.00), **mountain** (1.00), valley (0.99), **tree** (0.99)



BEP: 50%

Ground Truth: **grass** (0.98), **tree** (0.98), bush (0.54), truck (0.05)

Predictions: flowers (1.00), **grass** (0.98), **tree** (0.98), moose (0.95)



BEP: 50%

Ground Truth: **herd** (0.99), **grass** (0.98), tundra (0.96), caribou (0.13)

Predictions: sky (0.99), **herd** (0.99), **grass** (0.98), hills (0.97)



BEP: 50%

Ground Truth: **mountain** (1.00), **grass** (0.99), landscape (0.79), road (0.32)

Predictions: hillside (1.00), **mountain** (1.00), bush (1.00), **grass** (0.99)

2.1.3 Worst Predictions

Image

BEP, Ground Truth, Prediction



BEP: 0%

Ground Truth: tree (0.89), street (0.89), house (0.82), tower (0.79)

Predictions: bridge (0.98), water (0.97), sky (0.95), people (0.94)



BEP: 0%

Ground Truth: water (1.00), sky (1.00), house (0.54), bridge (0.43)

Predictions: buildings (1.00), boats (1.00), courtyard (1.00), canal (1.00)



BEP: 0%

Ground Truth: snow (0.86), field (0.52), elk (0.14), bulls (0.13)

Predictions: ice (1.00), frost (1.00), water (0.99), prototype (0.96)



BEP: 0%

Ground Truth: flowers (0.87), wall (0.52), gate (0.43), lawn (0.01)

Predictions: window (0.97), tree (0.96), interior (0.92), leaf (0.92)



BEP: 0%

Ground Truth: water (0.92), coast (0.81), bridge (0.80), hills (0.68)

Predictions: valley (0.98), tree (0.98), mountain (0.96), sky (0.95)



BEP: 0%

Ground Truth: beach (0.98), water (0.98), people (0.96), sand (0.86)

Predictions: snow (0.99), polar (0.99), tracks (0.99), bear (0.99)



BEP: 0%

Ground Truth: horizon (0.99), water (0.98), mountain (0.76), sunrise (0.08)

Predictions: sun (1.00), clouds (1.00), city (1.00), sky (1.00)



BEP: 0%

Ground Truth: buildings (0.77), house (0.53), village (0.22), hillside (0.12)

Predictions: tree (0.99), kauai (0.91), rocks (0.89), grass (0.89)

2.2 ESP-Game Database

2.2.1 Best Predictions

Image

BEP, Ground Truth, Prediction



BEP: 100%

Ground Truth: **coin** (1.00), **old** (1.00), **metal** (1.00), **money** (1.00), **silver** (1.00), **round** (1.00), **circle** (1.00), **head** (1.00), **face** (0.99)

Predictions: **coin** (1.00), **old** (1.00), **metal** (1.00), **money** (1.00), **silver** (1.00), **round** (1.00), **circle** (1.00), **head** (1.00), **face** (0.99)



BEP: 100%

Ground Truth: **book** (1.00), **glasses** (1.00), **shirt** (1.00), **hand** (1.00), **old** (1.00), **green** (1.00), **man** (1.00)

Predictions: **book** (1.00), **glasses** (1.00), **shirt** (1.00), **hand** (1.00), **old** (1.00), **green** (1.00), **man** (1.00)



BEP: 100%

Ground Truth: **snow** (1.00), **fence** (1.00), **sky** (1.00), **mountain** (1.00), **white** (0.98), **tree** (0.96)

Predictions: **snow** (1.00), **fence** (1.00), **sky** (1.00), **mountain** (1.00), **white** (0.98), **tree** (0.96)



BEP: 100%

Ground Truth: **ocean** (1.00), **cloud** (1.00), **sea** (1.00), **sky** (1.00), **water** (1.00), **blue** (1.00)

Predictions: **ocean** (1.00), **cloud** (1.00), **sea** (1.00), **sky** (1.00), **water** (1.00), **blue** (1.00)



BEP: 100%

Ground Truth: **grass** (1.00), **tree** (0.99), **house** (0.99), **green** (0.99), **sky** (0.98)

Predictions: **grass** (1.00), **tree** (0.99), **house** (0.99), **green** (0.99), **sky** (0.98)



BEP: 100%

Ground Truth: **silver** (1.00), **coin** (1.00), **old** (1.00), **money** (1.00), **boat** (1.00)

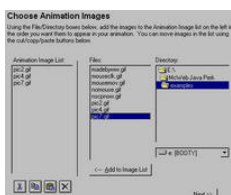
Predictions: **silver** (1.00), **coin** (1.00), **old** (1.00), **money** (1.00), **boat** (1.00)



BEP: 100%

Ground Truth: **pot** (1.00), **tree** (1.00), **plant** (1.00), **green** (1.00), **leaf** (1.00)

Predictions: **pot** (1.00), **tree** (1.00), **plant** (1.00), **green** (1.00), **leaf** (1.00)



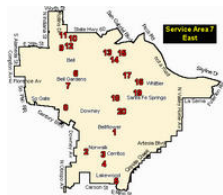
BEP: 100%

Ground Truth: **window** (1.00), **computer** (1.00), **gray** (1.00), **screen** (1.00), **blue** (0.96)

Predictions: **window** (1.00), **computer** (1.00), **gray** (1.00), **screen** (1.00), **blue** (0.96)

2.2.2 Median Predictions

Image



BEP, Ground Truth, Prediction

BEP: 40%

Ground Truth: **map** (0.99), **red** (0.89), yellow (0.79), black (0.79), numbers (0.23)

Predictions: **map** (0.99), white (0.97), **red** (0.89), chart (0.85), blue (0.85)



BEP: 40%

Ground Truth: **tv** (0.98), **comic** (0.94), show (0.93), blue (0.90), yellow (0.69)

Predictions: **tv** (0.98), movie (0.98), man (0.96), red (0.95), **comic** (0.94)



BEP: 40%

Ground Truth: **man** (0.99), **woman** (0.98), white (0.80), dog (0.26), show (0.14)

Predictions: **man** (0.99), people (0.99), **woman** (0.98), red (0.96), painting (0.93)



BEP: 40%

Ground Truth: **wave** (0.99), **girl** (0.99), flower (0.97), black (0.93), america (0.11)

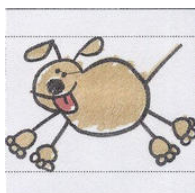
Predictions: people (1.00), woman (1.00), **wave** (0.99), group (0.99), **girl** (0.99)



BEP: 40%

Ground Truth: **black** (0.99), **picture** (0.97), people (0.97), painting (0.90), group (0.59)

Predictions: old (1.00), **black** (0.99), gray (0.99), man (0.99), **picture** (0.97)



BEP: 40%

Ground Truth: **drawing** (1.00), **cartoon** (1.00), kid (0.75), dog (0.72), brown (0.54)

Predictions: **drawing** (1.00), **cartoon** (1.00), child (0.96), red (0.94), white (0.89)



BEP: 40%

Ground Truth: **hair** (0.98), **woman** (0.98), blonde (0.73), yellow (0.51), legs (0.34)

Predictions: **hair** (0.98), **woman** (0.98), man (0.98), music (0.97), black (0.95)



BEP: 40%

Ground Truth: **girl** (0.99), **woman** (0.98), black (0.86), dance (0.73), ball (0.30)

Predictions: man (0.99), **girl** (0.99), **woman** (0.98), people (0.97), pink (0.90)

2.2.3 Worst Predictions

Image

BEP, Ground Truth, Prediction



BEP: 0%

Ground Truth: woman (0.83), cover (0.60), movie (0.53), magazine (0.36), fly (0.17), film (0.13)

Predictions: sky (0.97), red (0.97), man (0.88), white (0.87), water (0.85), green (0.84)



BEP: 0%

Ground Truth: water (0.85), blue (0.84), sea (0.47), plane (0.31), boat (0.28), army (0.18), war (0.15)

Predictions: man (0.97), green (0.92), wall (0.90), white (0.90), grass (0.89), sky (0.89), black (0.88)



BEP: 0%

Ground Truth: white (0.89), water (0.46), room (0.26), fire (0.25), wall (0.24), house (0.22), smoke (0.11)

Predictions: suit (1.00), man (1.00), tie (0.99), door (0.99), people (0.99), woman (0.98), group (0.98)



BEP: 0%

Ground Truth: people (0.75), red (0.70), city (0.66), building (0.56), car (0.51), mountain (0.33), street (0.17)

Predictions: green (0.99), forest (0.98), leaf (0.98), tree (0.97), flower (0.97), yellow (0.95), grass (0.95)



BEP: 0%

Ground Truth: snow (0.86), people (0.80), red (0.72), tower (0.68), yellow (0.53), mountain (0.37), ice (0.30)

Predictions: sky (0.99), blue (0.99), building (0.95), house (0.94), man (0.91), water (0.90), tree (0.89)



BEP: 0%

Ground Truth: water (0.87), boat (0.79), house (0.75), woman (0.71), game (0.66), lady (0.29), logo (0.28)

Predictions: man (0.95), sky (0.94), white (0.91), building (0.90), ship (0.90), people (0.89), black (0.89)



BEP: 0%

Ground Truth: blue (0.79), car (0.61), light (0.58), store (0.47), building (0.37), sign (0.36), moon (0.12), web (0.11)

Predictions: man (0.99), table (0.97), people (0.96), tree (0.91), white (0.90), woman (0.90), black (0.89), red (0.85)









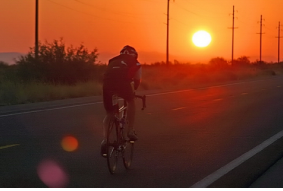

BEP: 0%

Ground Truth: wood (0.62), face (0.59), eye (0.58), statue (0.36), nose (0.29), gray (0.27), person (0.25), mouth (0.14)

Predictions: man (0.98), red (0.96), people (0.95), woman (0.95), brown (0.92), white (0.88), hat (0.84), picture (0.83)

2.3 IAPR Database

2.3.1 Best Predictions

| Image | BEP, Ground Truth, Prediction |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>BEP: 100%</p> <p>Ground Truth: bike (1.00), country (1.00), cycling (1.00), cyclist (1.00), helmet (1.00), jersey (1.00), short (1.00), hand (1.00), racing (1.00), road (1.00), side (1.00), desert (1.00), hill (1.00), landscape (1.00), sky (1.00)</p> <p>Predictions: bike (1.00), country (1.00), cycling (1.00), cyclist (1.00), helmet (1.00), jersey (1.00), short (1.00), hand (1.00), racing (1.00), road (1.00), side (1.00), desert (1.00), hill (1.00), landscape (1.00), sky (1.00)</p> |
|  | <p>BEP: 100%</p> <p>Ground Truth: bike (1.00), cycling (1.00), cyclist (1.00), helmet (1.00), jersey (1.00), line (1.00), power (1.00), short (1.00), hand (1.00), road (1.00), bottle (1.00), car (1.00), sky (1.00)</p> <p>Predictions: bike (1.00), cycling (1.00), cyclist (1.00), helmet (1.00), jersey (1.00), line (1.00), power (1.00), short (1.00), hand (1.00), road (1.00), bottle (1.00), car (1.00), sky (1.00)</p> |
|  | <p>BEP: 100%</p> <p>Ground Truth: bike (1.00), cycling (1.00), cyclist (1.00), helmet (1.00), jersey (1.00), short (1.00), shrub (1.00), road (1.00), desert (1.00), cloud (1.00), mountain (1.00), sky (1.00)</p> <p>Predictions: bike (1.00), cycling (1.00), cyclist (1.00), helmet (1.00), jersey (1.00), short (1.00), shrub (1.00), road (1.00), desert (1.00), cloud (1.00), mountain (1.00), sky (1.00)</p> |
|  | <p>BEP: 100%</p> <p>Ground Truth: bike (1.00), cycling (1.00), cyclist (1.00), helmet (1.00), jersey (1.00), short (1.00), cliff (1.00), meadow (1.00), road (1.00), landscape (1.00), cloud (1.00), sky (1.00)</p> <p>Predictions: bike (1.00), cycling (1.00), cyclist (1.00), helmet (1.00), jersey (1.00), short (1.00), cliff (1.00), meadow (1.00), road (1.00), landscape (1.00), cloud (1.00), sky (1.00)</p> |
|  | <p>BEP: 100%</p> <p>Ground Truth: bike (1.00), cycling (1.00), cyclist (1.00), helmet (1.00), jersey (1.00), short (1.00), shrub (1.00), road (1.00), desert (1.00), cloud (1.00), mountain (1.00), sky (1.00)</p> <p>Predictions: bike (1.00), cycling (1.00), cyclist (1.00), helmet (1.00), jersey (1.00), short (1.00), shrub (1.00), road (1.00), desert (1.00), cloud (1.00), mountain (1.00), sky (1.00)</p> |
|  | <p>BEP: 100%</p> <p>Ground Truth: cycling (1.00), cyclist (1.00), jersey (1.00), helmet (1.00), bike (1.00), highway (1.00), country (1.00), short (1.00), hand (1.00), sand (1.00), side (1.00), bush (1.00)</p> <p>Predictions: cycling (1.00), cyclist (1.00), jersey (1.00), helmet (1.00), bike (1.00), highway (1.00), country (1.00), short (1.00), hand (1.00), sand (1.00), side (1.00), bush (1.00)</p> |
|  | <p>BEP: 100%</p> <p>Ground Truth: cycling (1.00), power (1.00), cyclist (1.00), pole (1.00), bike (1.00), helmet (1.00), jersey (1.00), short (1.00), sun (1.00), road (1.00), shrub (1.00), sky (0.99)</p> <p>Predictions: cycling (1.00), power (1.00), cyclist (1.00), pole (1.00), bike (1.00), helmet (1.00), jersey (1.00), short (1.00), sun (1.00), road (1.00), shrub (1.00), sky (0.99)</p> |
|  | <p>BEP: 100%</p> <p>Ground Truth: cycling (1.00), cyclist (1.00), sky (1.00), road (1.00), cloud (1.00), bike (1.00), helmet (1.00), jersey (1.00), shrub (1.00), desert (1.00), short (1.00), mountain (1.00)</p> <p>Predictions: cycling (1.00), cyclist (1.00), sky (1.00), road (1.00), cloud (1.00), bike (1.00), helmet (1.00), jersey (1.00), shrub (1.00), desert (1.00), short (1.00), mountain (1.00)</p> |

2.3.2 Median Predictions

Image

BEP, Ground Truth, Prediction



BEP: 50%
Ground Truth: **pullover** (1.00), boy (1.00)
Predictions: cap (1.00), **pullover** (1.00)



BEP: 50%
Ground Truth: **sky** (0.99), terrain (0.03)
Predictions: cloud (1.00), **sky** (0.99)



BEP: 50%
Ground Truth: **cloud** (0.99), meadow (0.99)
Predictions: horizon (0.99), **cloud** (0.99)



BEP: 50%
Ground Truth: **sky** (1.00), forest (0.90)
Predictions: **sky** (1.00), slope (1.00)



BEP: 50%
Ground Truth: **salt** (1.00), lake (0.42)
Predictions: **salt** (1.00), desert (1.00)



BEP: 50%
Ground Truth: **woman** (0.97), desert (0.70)
Predictions: rock (0.99), **woman** (0.97)



BEP: 50%
Ground Truth: **woman** (1.00), stand (0.99)
Predictions: carpet (1.00), **woman** (1.00)



BEP: 50%
Ground Truth: **front** (0.98), building (0.58)
Predictions: **front** (0.98), child (0.98)

2.3.3 Worst Predictions

Image

BEP, Ground Truth, Prediction



BEP: 0%

Ground Truth: woman (0.81), man (0.69), penguin (0.64), people (0.64), hill (0.43), jacket (0.36), trouser (0.22)

Predictions: llama (0.99), rock (0.95), meadow (0.95), cliff (0.92), mountain (0.89), slope (0.89), waterfall (0.88)



BEP: 0%

Ground Truth: road (0.57), bike (0.46), cyclist (0.40), short (0.31), cycling (0.20), shoe (0.09), sock (0.02)

Predictions: canyon (0.99), man (0.95), branch (0.94), rock (0.91), side (0.89), slope (0.88), woman (0.86)



BEP: 0%

Ground Truth: hand (0.68), roof (0.58), dress (0.27), head (0.23), girl (0.23), hair (0.19), hut (0.16)

Predictions: man (0.98), woman (0.97), wall (0.97), tourist (0.95), front (0.93), people (0.89), hall (0.86)



BEP: 0%

Ground Truth: bed (0.80), window (0.69), lamp (0.68), curtain (0.61), bedside (0.52), room (0.44), side (0.41)

Predictions: man (0.94), woman (0.92), front (0.90), reed (0.90), column (0.89), sky (0.88), roof (0.88)



BEP: 0%

Ground Truth: racetrack (1.00), meadow (0.99), people (0.64), hand (0.23), tent (0.21), flag (0.17), lane (0.05)

Predictions: grandstand (1.00), uniform (1.00), jersey (1.00), team (1.00), short (1.00), field (1.00), stadium (1.00)



BEP: 0%

Ground Truth: tourist (0.94), front (0.94), brick (0.93), door (0.84), girl (0.68), boy (0.50), building (0.49)

Predictions: wall (1.00), room (1.00), window (0.99), man (0.96), table (0.96), woman (0.96), chair (0.95)



BEP: 0%

Ground Truth: bed (0.80), wood (0.42), room (0.41), lamp (0.38), table (0.33), night (0.17), clock (0.06), bedcover (0.06)

Predictions: field (0.99), landscape (0.98), house (0.96), terrace (0.94), tree (0.94), mountain (0.94), slope (0.92), meadow (0.88)



BEP: 0%

Ground Truth: lawn (0.76), chair (0.67), table (0.60), shade (0.42), sun (0.41), shore (0.33), lake (0.22), sign (0.18), cliff (0.17)

Predictions: tree (1.00), garden (0.94), man (0.92), house (0.91), sky (0.89), woman (0.88), people (0.88), front (0.86), plant (0.82)