

Placepedia: Comprehensive Place Understanding with Multi-Faceted Annotations (Supplementary Material)

Huaiyi Huang^[0000-0003-1548-2498], Yuqi Zhang^[0000-0003-1883-4081],
Qingqiu Huang^[0000-0002-6467-1634], Zhengkui Guo^[0000-0002-8093-7578],
Ziwei Liu^[0000-0002-4220-5958], and Dahua Lin^[0000-0002-8865-7896]

The Chinese University of Hong Kong
{hh016,zy016,hq016,gz019,dhlin}@ie.cuhk.edu.hk, zwliu.hust@gmail.com

Abstract. This document provides: 1) annotation interface of Placepedia; 2) additional results on place understanding and city embedding.

1 Annotation Interface

Fig. 1 shows the interface of the annotation tool.

2 Additional Results

2.1 Country Recognition

Fig. 2 shows the results of country recognition. They reveal similar findings to city recognition. Although places can be wrongly classified to another country, the prediction often belongs to the same continent with the ground truth country. For instance, Australia and New Zealand are both in Oceania; Iceland, Ireland, and Italy are all in Europe.

2.2 Weights of Economy, Culture, and Politics

Tab. 1 shows the weights of economy, culture, and politics for all cities of Places-Fine, which are computed as in [1]. Lists of pre-defined economic/cultural/political keywords are provided therein. We use the leading paragraphs of Wikipedia pages as city description, and calculate the frequencies of these three types of keywords. By normalizing the frequencies we get the weights of economy, culture, and politics for each city.

References

1. Son, J.S., Thill, J.C.: Is your city economic, cultural, or political? recognition of city image based on multidimensional scaling of quantified web pages. In: Spatial Analysis and Location Modeling in Urban and Regional Systems, pp. 63–95. Springer (2018)

Table 1. The weights of economy, culture, and politics of 50 cities of Places-Fine, which are computed as in [1], using the leading paragraphs of Wikipedia pages as city description

City	Country / Territory	Continent	Economic keywords	Cultural keywords	Political keywords
Amsterdam	Netherlands	Europe	0.331	0.294	0.375
Athens	Greece	Europe	0.299	0.278	0.424
Auckland	New Zealand	Oceania	0.320	0.310	0.370
Bangkok	Thailand	Asia	0.341	0.307	0.352
Barcelona	Spain	Europe	0.336	0.336	0.328
Beijing	China	Asia	0.345	0.310	0.345
Berlin	Germany	Europe	0.323	0.263	0.414
Boston	United States of America	North America	0.317	0.292	0.392
Buenos Aires	Argentina	South America	0.310	0.296	0.394
Cairo	Egypt	Africa	0.333	0.282	0.385
Cape Town	South Africa	Africa	0.358	0.245	0.396
Delhi	India	Asia	0.320	0.262	0.418
Dubai	United Arab Emirates	Asia	0.426	0.259	0.315
Dublin	Ireland	Europe	0.320	0.280	0.400
Florence	Italy	Europe	0.323	0.338	0.338
Guadalajara	Mexico	North America	0.394	0.282	0.324
Hong Kong	Hong Kong	Asia	0.315	0.204	0.481
Istanbul	Turkey	Europe / Asia	0.317	0.275	0.408
Kuala Lumpur	Malaysia	Asia	0.272	0.272	0.456
Las Vegas	United States of America	North America	0.319	0.319	0.362
London	United Kingdom	Europe	0.335	0.335	0.330
Los Angeles	United States of America	North America	0.326	0.302	0.372
Macau	Macau	Asia	0.349	0.233	0.419
Madrid	Spain	Europe	0.286	0.299	0.416
Mecca	Saudi Arabia	Asia	0.288	0.288	0.425
Mexico City	Mexico	North America	0.308	0.260	0.432
Miami	United States of America	North America	0.360	0.315	0.326
Milan	Italy	Europe	0.341	0.287	0.372
New York City	United States of America	North America	0.328	0.323	0.349
Orlando	United States of America	North America	0.313	0.297	0.391
Osaka	Japan	Asia	0.303	0.242	0.455
Oslo	Norway	Europe	0.400	0.247	0.353
Paris	France	Europe	0.323	0.311	0.366
Philadelphia	United States of America	North America	0.325	0.299	0.376
Prague	Czech Republic	Europe	0.326	0.304	0.370
Reykjavík	Iceland	Europe	0.321	0.286	0.393
Rome	Italy	Europe	0.328	0.259	0.414
San Francisco	United States of America	North America	0.322	0.308	0.370
São Paulo	Brazil	North America	0.333	0.306	0.361
Seoul	South Korea	Asia	0.341	0.302	0.357
Shanghai	China	Asia	0.373	0.273	0.355
Shenzhen	China	Asia	0.339	0.303	0.358
Singapore	Singapore	Asia	0.311	0.316	0.373
Sydney	Australia	Oceania	0.333	0.311	0.356
Taipei	Taiwan	Asia	0.318	0.291	0.391
Tokyo	Japan	Asia	0.317	0.289	0.394
Toronto	Canada	North America	0.340	0.321	0.340
Vancouver	Canada	North America	0.315	0.324	0.360
Venice	Italy	Europe	0.306	0.296	0.398
Vienna	Austria	Europe	0.306	0.298	0.397

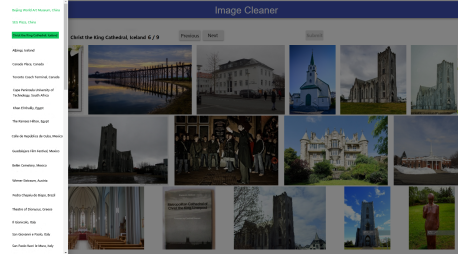


Fig. 1. Interface of the annotation tool. The left column lists all places. Text in green means that images of the place have been annotated; Text with green background represents the current place to clean; Text in black indicates places waiting to be cleaned

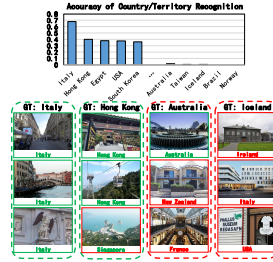


Fig. 2. The table shows the most and the least accurate 5 classes of country recognition. Below the table are 4 sets of examples, including 2 green/red dash boxes representing sample classes with high/low accuracies. Inside each dash box is the ground truth at the top and three images associated with predicted labels. Green/red solid boxes of images mean right/wrong predictions