



Visipedia: Visual Systems Composed of People and Machines

Pietro Perona
California Institute of Technology, USA

Serge Belongie
University of California, San Diego, USA

Abstract

Visipedia is a joint project between Pietro Perona's Vision Group at Caltech and Serge Belongie's Vision Group at UCSD. In Visipedia, short for "Visual Encyclopedia," pictures are first-class citizens alongside text. Goals of Visipedia include creation of hyperlinked, interactive images embedded in Wikipedia articles, scalable representations of visual knowledge, large scale machine vision datasets, and visual search capabilities. Toward achieving these goals, Visipedia advocates interaction and collaboration between machine vision and human users and experts.

In Part I of this presentation we provide a general introduction to Visipedia, a discussion of online crowdsourcing methods for rating annotators and obtaining cost-effective labels, and a novel method for crowdsourcing the visual categorization problem.

In Part II we cover part and attribute based visual recognition with humans in the loop, the design of interactive field guides for fine grained visual category recognition, and methods for attribute induction and canonical pose discovery.

Keywords: fine grained visual category recognition, human-in-the-loop, crowdsourcing, part and attribute models, cost-effective labelling