Project Overview:

Worth going? Rating bias on the St. Louis restaurant rating platform: based on users' reviews and rating score.

Team members:

Members: 502367 Miao Qin, 502315 Xianchun Zeng, 502363 Jiajun Sun.

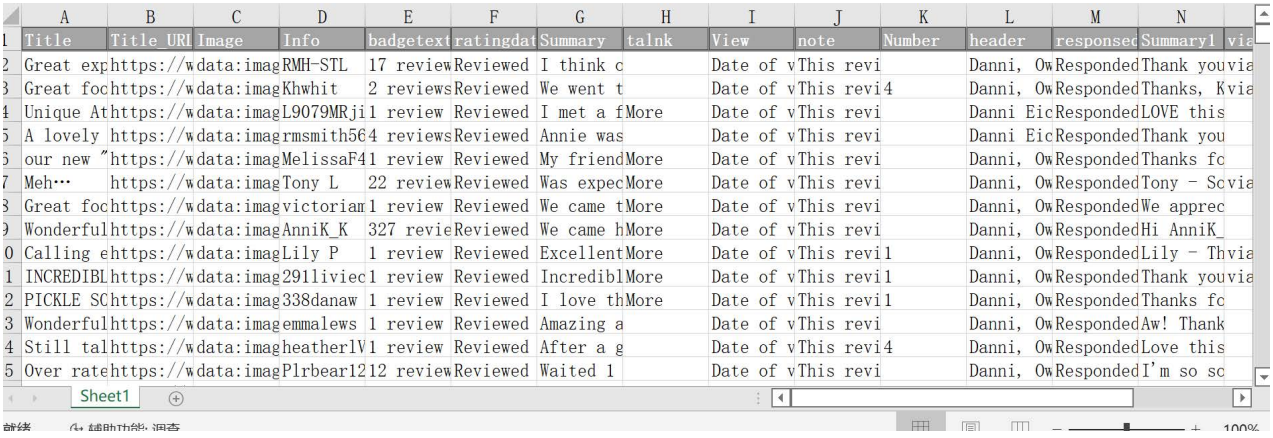
Goals and methods:

1. General Description:

We are interested in discovering the bias in the review section of different restaurant recommendation websites for example Google Maps, Tripadvisor, and yelp. We will try to create an assessment system to output the 'fair' score(from 1 to 5) of a particular restaurant by aggregating the review data we collected considering the bias mentioned above. In this way, we can compare the 'fair' score with the average score of a restaurant on other restaurants' recommendation websites to test their reliability and validity.

2. Methodology

We will use a Python web crawler to scrape the review data from Yelp, Google Maps, and Tripadvisor to discover the bias within them. Then we will aggregate the result and produce the 'fair score' and use it to test other food recommendation websites.



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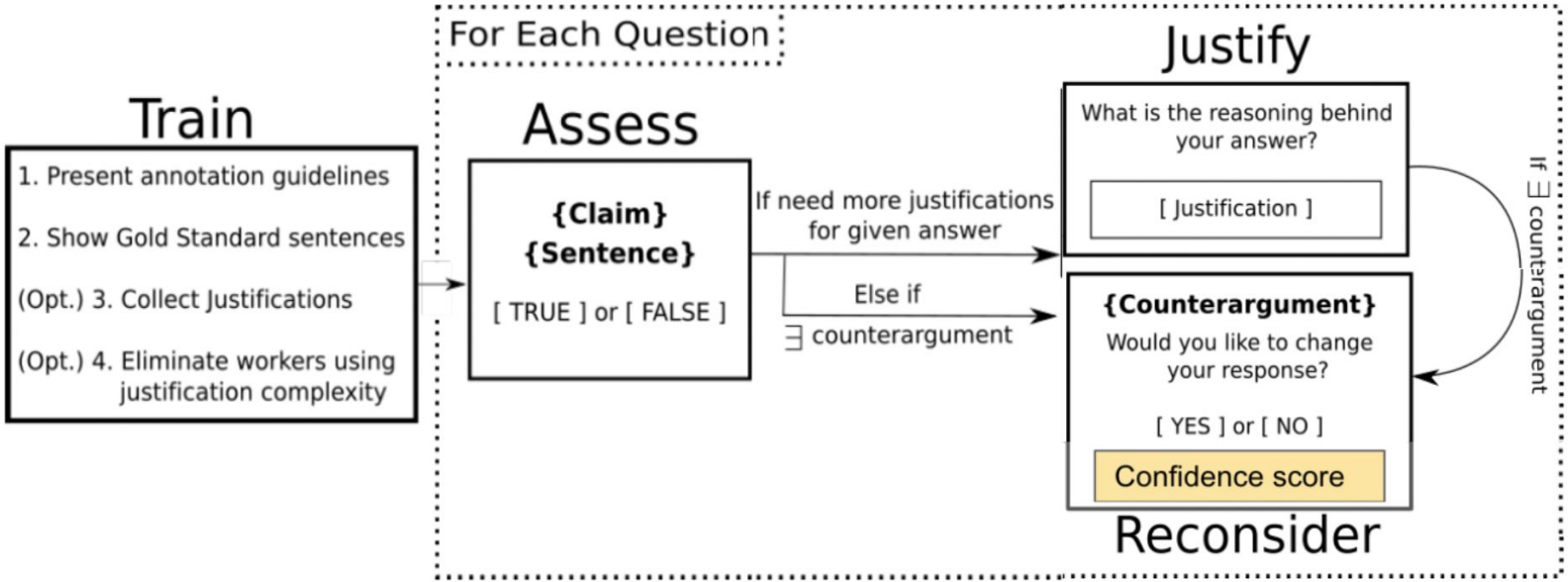
Sheet1

How Does Gambling Incentives Impact Collaborative Crowdsourcing



Derived from Microtalk, we:

1) Add a microtask to ask workers' confidence (0%-100%) on their answer;
2) Change the payment rule to: ***base payment for one question + bonus*confidence if the answer is correct.***
- bonus*confidence if the answer is incorrect.

Presenter: Cenhao, Ruiwei, and Yang

Human-in-the-loop research in the field of assisted driving (Literature Review)

Qihang Huang, Zheng Wang, Zhuomin Li

- What is it？

  After reviewing related research papers, we understand the interaction between assistance systems and drivers. Using data from tens of thousands of human decisions to train drivers assistance system to obtain the better performance. Likewise, assistance systems can give drivers a more comfortable and safer driving experience, allowing them to handle any driving situation with ease.

- Why is it?

  There are many studies in the field of assisted driving that involve Human-in-the-Loop Computation, such as lane keeping control assist systems and automatic lane change assist (LCA) systems. Through this literature review, we hope to provide a high level overview of current research directions and predict future trends.

- How to do it?
  - Performance
  - Safety

A Restaurant Recommendation System Based on Yelp Data

—Team: Xinyi Ye, Daisy Wang

Project: The recommendation system is widely used in the sectors like streaming videos, social networking, and online shopping. Recommendation systems help to personalize a platform and help the user find something they like. In our project, we will dig into yelp data and explore latent factors that affect people's favour. Based on that, we will implement a restaurant recommendation system to recommend restaurants to specific users.

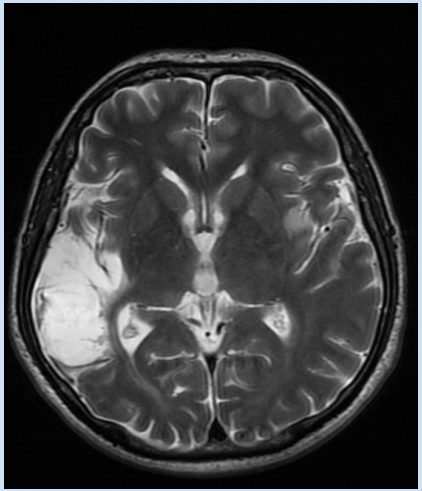
Milestone 2: In milestone 2 we first implemented a collaborative filtering restaurant recommendation system based on the Yelp data in the scope of St Louis. The assumption of collaborative filtering is that people who have liked an item in the past will also like similar items in future and we used singular value decomposition that we learned in this class as a filtering approach in recommender systems.

Can Crowdsourcing Effectively Segment Medical Images?

Danni Beaulieu & Kaushik Dutta

Future work

- Pairwise segmentations
- Text justifications
- Quality Assessment

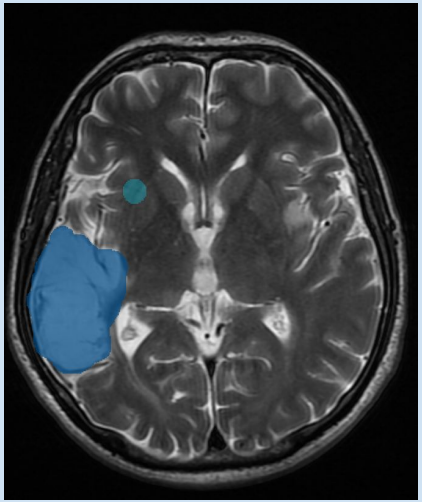


Input Image

Crowdsource based segmentation using Segmentation tool

Manual segmentation + label aggregation

- Expectation Maximization (STAPLE)
- Majority Vote

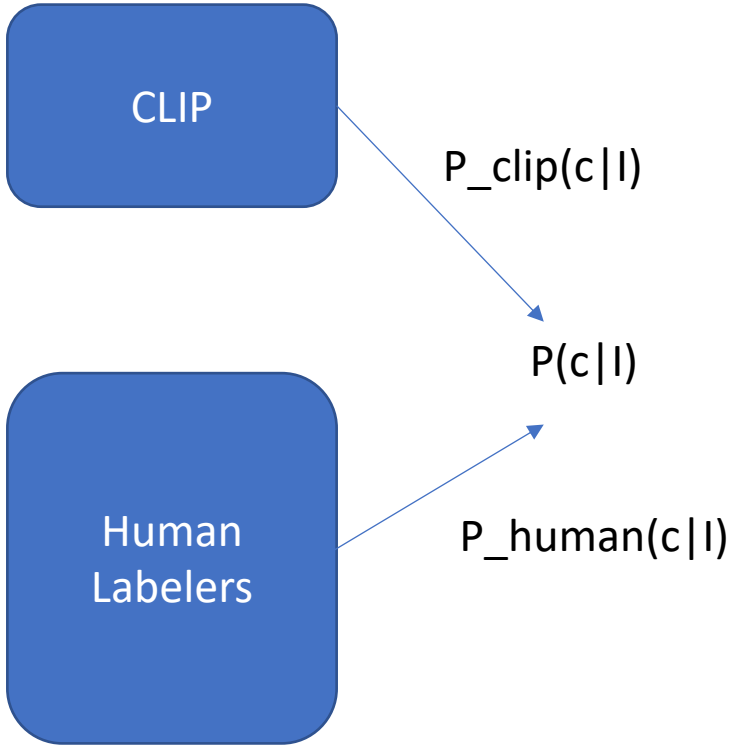


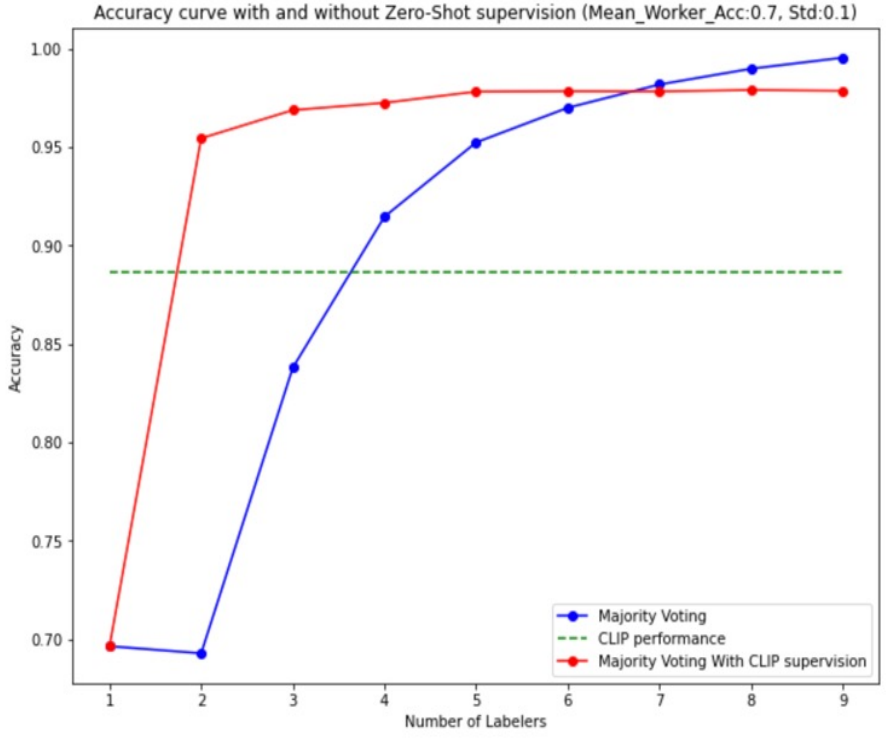
Output Image

Zero-shot Supervision for Noisy Label Aggregation

Aayush Dhakal, Subash Khanal

Idea: Utilize rich embedding space of CLIP (Contrastive Language Image Pretraining) to guide low resource and noisy label aggregation.

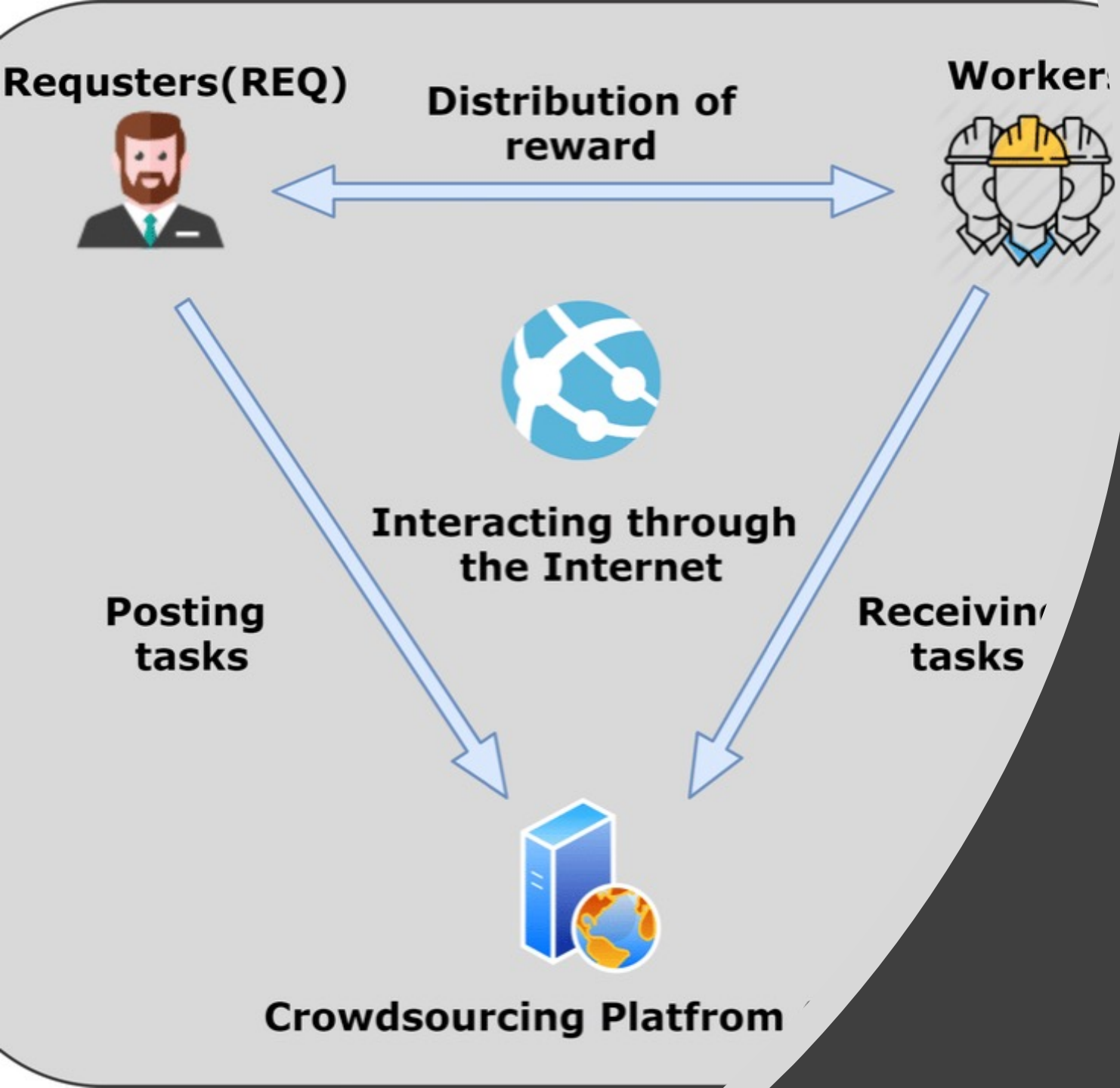




Food101
CIFAR10
CIFAR100
Birdsnap
SUN397
Stanford Cars
FGVC Aircraft
VOC2007
DTD
Oxford Pets
Caltech101
Flowers102
MNIST
FER2013
STL10
EuroSAT
RESISC45
GTSRB
KITTI
Country211
PCam
UCF101
Kinetics700
CLEVR
HatefulMemes
Rendered SST2
ImageNet

Classification comparison of doordash subreddit content tags based on crowdsourcing and machine learning methods

——Run Zhang, Tejas Mattur, Jacob Dodd



WUSTLTurk: Crowdsourcing Platform Design

Alex Wollam, David Sarpong

Defending against sybil attacks on crowdsourcing

- Successful application of MLM and the defense against sybil attacks on MLM.
- Trend in protecting crowdsourcing from sybil attacks
- Propose ideas (structure, incentive design) for sybil-proof crowdsourcing methods

Evaluation of Existing Frameworks in Privacy Breach Protection for Crowdsourcing

Ruowen Xu & Yucen Zhong

- General Trend in Privacy Breach Problems in Cyber Security
- Spatial Crowdsourcing Framework
- E2EE Encryption
- Use Crowdsourcing to Prevent Privacy Breach in Crowdsourcing