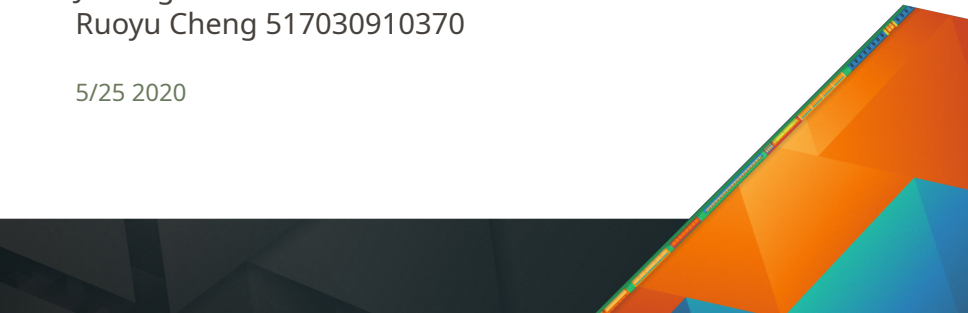# Paper review system

Yixiong Wang 517030910382
Jiasong Guo   517030910374
Ruoyu Cheng 517030910370

5/25 2020

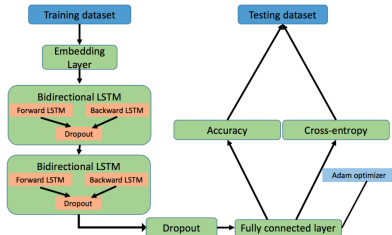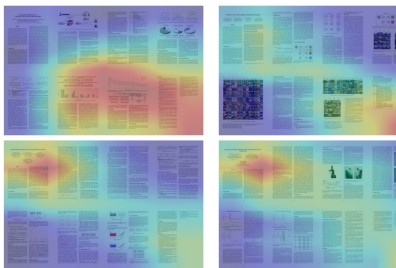# INTRODUCTION

Background

motivation

Background

The tremendous increase in number of submissions to generalist AI conferences has led to a significant decrease of the reviewing quality.

During last IJCAI(2020), a panel has been organized. Summary reject is the most common idea proposed fo reducing the reviewing load.

Existing Method

- "Deep Paper Gestalt."
- "An end-to-end learning solution for assessing the quality of Wikipedia articles"
- https://github.com/Acemap/Acemap-Paper-X-Ray

Motivation

Interpretability?

LGB + ResNet?

Quality Expectation-Variance Tradeoffs in Crowdsourcing Contests	1 / 7
1501.00267.pdf	1 / 35

```
The score of (../input/Val/conference-pdf/aaai16-12418.pdf) and (../input/Val/conference-jpg/aaai16-12418.jpg) is 18.6
Acc:  0.0
The score of (../input/Val/conference-pdf/aaai16-11924.pdf) and (../input/Val/conference-jpg/aaai16-11924.jpg) is 20.3
Acc:  0.0
The score of (../input/Val/conference-pdf/aaai18-16616.pdf) and (../input/Val/conference-jpg/aaai18-16616.jpg) is 17.9
Acc:  0.0
The score of (../input/Val/conference-pdf/aaai16-12023.pdf) and (../input/Val/conference-jpg/aaai16-12023.jpg) is 20.0
Acc:  0.0
The score of (../input/Val/conference-pdf/aaai14-8294.pdf) and (../input/Val/conference-jpg/aaai14-8294.jpg) is 20.8
Acc:  0.0
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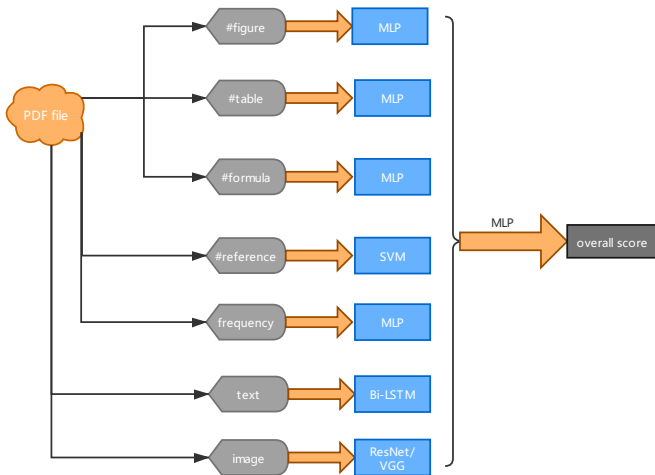
OUR WORK

Framework

Introduction
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Our Work
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Data Analysis
○○○○○○○○

Experimental Result
○○○○

Future Work
○○

Work Division
○○○

Framework

Introduction
○○○○

Our Work
○○●○

Data Analysis
○○○○○○○○

Experimental Result
○○○○

Future Work
○○

Work Division
○○○

Review Generation

Introduction
○○○○

Our Work
○○○●

Data Analysis
○○○○○○○○

Experimental Result
○○○○

Future Work
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Work Division
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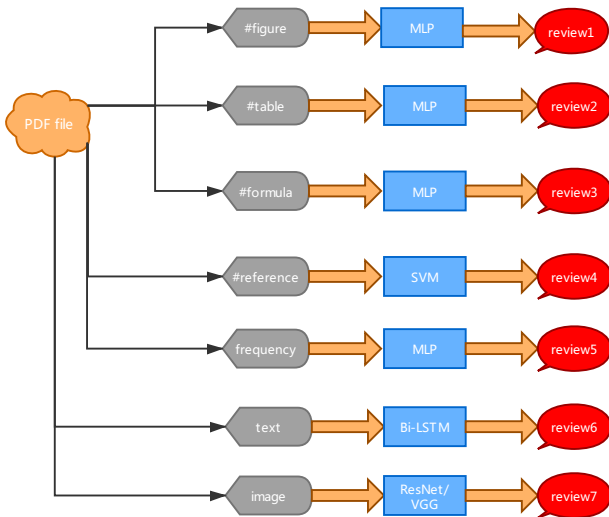
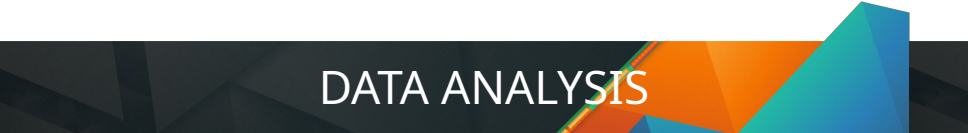# Review Generation
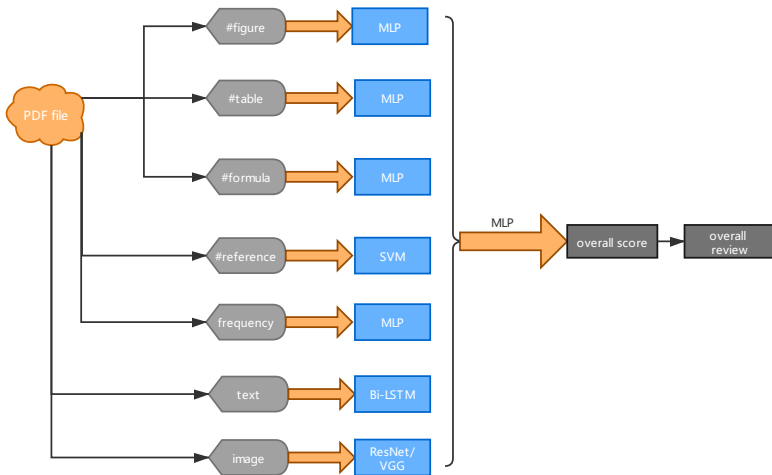
DATA ANALYSIS

Data Distribution

Figures

Distribution of figures
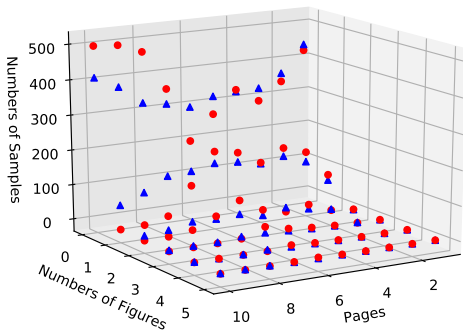
Tables

Distribution of tables

Introduction 〇〇〇〇

Our Work 〇〇〇〇

Data Analysis 〇〇〇●〇〇〇〇

Experimental Result 〇〇〇〇

Future Work 〇〇

Work Division 〇〇〇
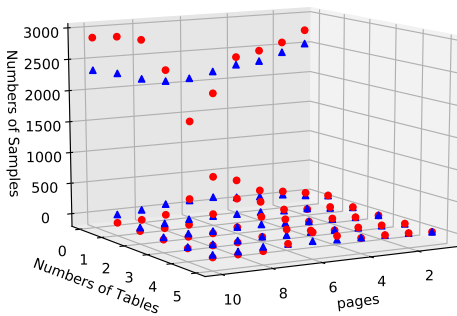
Formulas

Distribution of formulas
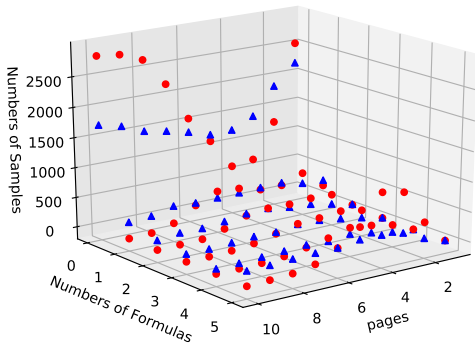
Key Word Frequency

Distribution of hottest word.

Introduction
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Our Work
oooo

Data Analysis
ooooo●oo

Experimental Result
oooo

Future Work
oo

Work Division
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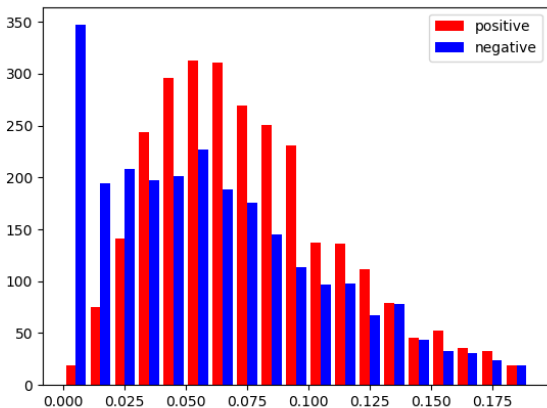
References

Distribution of references

Introduction
○○○○

Our Work
○○○○

Data Analysis
○○○○○○●○

Experimental Result
○○○○

Future Work
○○

Work Division
○○○
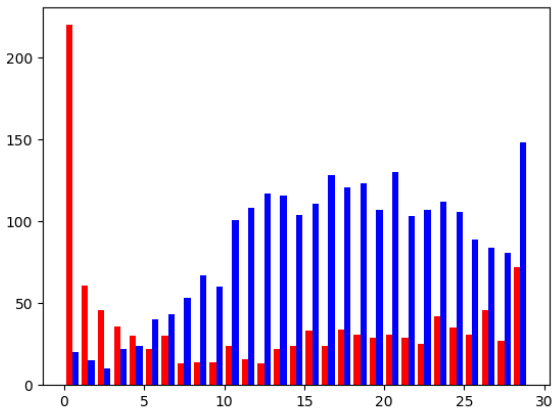
Text

Text classification accuracy of Bi-LSTM

val_loss: 0.94951 - val_acc: 0.7042

Image

Image classification accuracy of ResNet-18(non-pretrained)

```
test_acc:  0.8751651254953765
8.75975 0.87025 2.15781 0.87517 0.87583
```

Image classification accuracy of ResNet-18(pretrained)

```
test_acc:  0.9233817701453104
45.68342 0.90905 10.21313 0.92338 0.93395
```

Image classification accuracy of VGG-16(pretrained)

```
test_acc:  0.8533685601056803
76.3184 0.81562 15.79796 0.85337 0.86592
```

EXPERIMENTAL RESULT

Performance

	Image(VGG)	Image(ResNet)	Text	Reference	Frequency	Figure	Table	Formula
Acc	0.85	0.92	0.70	0.80	0.67	0.79	0.73	0.82

	Feature*	overall(VGG)	overall(Resnet)
Acc	0.90	0.98	0.99

Review

- Discriminative Analysis Dictionary Learning (AAAI)
- Service Function Chaining Resource Allocation: A Survey

Review

Result for "Discriminative Analysis Dictionary Learning":

```
$ python review.py --path="Discriminative Analysis Dictionary Learning.pdf"
[0,1,1,1,1,0.968,0.99608094]
visualizations not good, needs more figure to explain yourself
Sufficient proof for your result
Rigorous derivation of mathematical theory, provides a theoretical basis for you
r algorithm, technically sound
The reference citations are considered acceptable
Well-structured context makes it clear to all readers
The paper is well-organized
The paper is clearly written
Advice: Accept
```

Result for "Service Function Chaining Resource Allocation: A Survey":

```
$ python review.py --path="Service Function Changing Resource AllocationASurvey.pdf"
[0,1,0,0,1,0.071,0.00267258]
visualizations not good, needs more figure to explain yourself
Sufficient proof for your result
Need more derivation to proof your algorithm, not technically sound
Please cite more or less references from reliable sources
Well-structured context makes it clear to all readers
Confusing page layout
Check for grammatical errors
Advice: Reject
```

FUTURE WORK

Future Work

- More data to test scalability.
- Implement multi-conference review.

WORK DIVISION

Work Division

- Jiasong Guo : Put forward the idea of these interpretable features and implement image part(ResNet & VGG)
- Yixiong Wang : pdf parsing, data analysis, interpretable multi-dimension feature extraction and data visiualization
- Ruoyu Cheng: Implementation on MLPs and Bi-lstm model, and put forward the structure of overall score

Introduction
○○○○

Our Work
○○○○

Data Analysis
○○○○○○○○

Experimental Result
○○○○

Future Work
○○

Work Division
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THANKS FOR WATCHING!