

Detection of street signs in videos in a robot swarm

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project-1: Data analysis of Robot Swarm data, May 2, 2017

Extracting and identifying traffic signals from the videos captured by Robot swarms to help in recognizing the pattern and benchmarking the performance of the setup. © 2017 <https://creativecommons.org/licenses/>. The authors verify that the text is not plagiarized.

Keywords: Cloud, I524

<https://github.com/cloudmesh/sp17-i524/blob/master/project/S17-IO-3022/report/report.pdf>

1. INTRODUCTION

For test purpose we created some mobile videos of traffic in a simulated traffic setup. All saved video files are uploaded on the Hadoop HDFS [1]. Batch processing is enabled on the input video files to search for key images, namely the red, green and yellow signals in the images using the OpenCV [2] library's Template matching functionality. Hadoop Map reduce [1] is used for processing and analysis of the images in the videos and getting a count of the how many red or green or yellow signals are encountered.

collectd [3] is used for benchmarking of the setup with Apache Hadoop using various sized data sets and number of nodes.

2. TECHNOLOGY USED

tables need a begin table end table

| Technology Name | Purpose |
|--------------------------------------|--|
| Hadoop [1] | map reduce |
| OpenCV [2] Pattern matching in video | |
| ansible [4] | Automated deployment |
| collectd [3] | Collection of statistics of setup for benchmarking |

3. PLAN

tables need a begin table end table

| Week | Work Item | Status |
|-------|--|---------|
| week1 | Ansible deployment script for Hadoop setup | planned |
| week2 | Ansible deployment script for OpenCV setup | planned |
| week3 | Creating sample videos | planned |
| week4 | OpenCV template matching script | planned |
| week5 | Deployment and test of basic setup | planned |
| week6 | Ansible deployment of collectd | planned |
| week7 | Performance measurement of setup and report creation | planned |
| week8 | Exploring different setup | planned |

4. DESIGN

TBD

5. DEPLOYMENT

TBD

6. BENCHMARKING

TBD

7. DISCUSSION

TBD

8. CONCLUSION

TBD

9. ACKNOWLEDGEMENT

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