Head Count Detection Using Apache Mesos

Anurag Kumar Jain[1], **Pratik Sushil Jain**[1], **and Ronak Parekh**[1]

[1] *School of Informatics and Computing, Bloomington, IN 47408, U.S.A.*

By deploying our face detection application utilizing Apache Mesos, we will try to achieve high throughput by parellalizing processing of images for head count task on multiple nodes each having thousand of pictures. © 2017 https://creativecommons.org/licenses/. The authors verify that the text is not plagiarized.

Keywords: Cloud, I524

https://github.com/cloudmesh/sp17-i524/tree/master/project/S17-IR-P011

1. INTRODUCTION

Counting the number of people in a image has been a challenge in the field of computer vision [1]. Given a huge number of images, finding the number of people in each image can become a cumbersome task. We try to solve this issue using our distributed approach utilizing power of Apache Mesos [2] , where services have to be deployed (TBD). We run the OpenCV [3] face detection algorithms on smaller data in multiple nodes and obtain the head count of the people in each picture.

2. WHY MESOS?

Mesos can be used to implement a decentralized scheduling approach. In this approach each framework decides which offers to accept or reject. There are many incentives that are provided by any decentralized system. The incentives provided by Apache Mesos system includes short tasks, no minimum allocation, scale down and not accepting unknown resources [4].

ACKNOWLEDGEMENTS

REFERENCES

[1] Wikipedia, "Face detection," Web Page, Feb. 2017, online; accessed 09-March-2017. [Online]. Available: https://en.wikipedia.org/wiki/Face_detection

[2] Apache Software Foundation, "Apache mesos," Web Page, Mar. 2014, accessed 2017-04-01. [Online]. Available: http://mesos.apache.org/

[3] Wikipedia, "OpenCV," Web Page, Feb. 2017, online; accessed 09-March-2017. [Online]. Available: https://en.wikipedia.org/wiki/OpenCV

[4] Benjamin Hindman, Andy Konwinski, Matei Zaharia, Ali Ghodsi, Anthony D. Joseph, Randy Katz, Scott Shenker, Ion Stoica, "Mesos: A platform for fine-grained resource sharing in the data center," in *8th USENIX Symposium on Networked Systems Design and Implementation*, 2010. [Online]. Available: http://mesos.berkeley.edu/mesos_tech_report.pdf