Ruby Grant 2016 Mentor Report: Tensorflow.rb

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31 March 2017

Abstract

It is reported that the evaluation of the achievement of "Tensorflow.rb" project carried out on Ruby Grant 2016 as a mentor for the project.

1 The summary of the project

1.1 The project goal

This project was carried out by Arafat Dad Khan to continue the development of Tensorflow.rb library, which is a wrapper library for Tensorflow [1]. The primary goal of this project was to make it available on Ruby that the every feature of Tensorflow C APIs.

1.2 The project achievements

The achievements of this project are:

- Make Ruby programs enable to build computational graphs
- Replace the use of Ruby protobuf and NArray with Tensorflow C APIs
- Improve the exportation speed of computational graphs by the previous achievement

1.3 Relationship as a mentor

As a mentor, I've received almost-weekly development updates by email, and gave him some comments when it was necessary.

2 The evaluation of the project

This project is the continuation of the development of Tensorflow.rb library. Tensorflow.rb library is a wrapper library for Tensorflow, and was started by Arafat supported by Somatic Labs Inc. on Sept. 2016 [2, 3].

As described in [4], Tensorflow C APIs were aggressively developed during the development period of this project. Despite it is difficult to follow the changes of the APIs, Arafat had almost done to rewrite Tensorflow.rb to use the new C APIs. So the achievements of this work should receive a high evaluation.

3 The hope for the future development

There are two things that I want to request to the future development of Tensorflow.rb library.

The first is providing APIs with Ruby-ish interfaces on top of Tensorflow APIs. Because Tensorflow.rb is a simple wrapper, so a Ruby program using the current Tensorflow.rb doesn't seem a natural Ruby program. Providing Ruby-ish APIs will resolve this unnaturality.

The second is keeping to follow the updates of Tensorflow C APIs. Tensorflow is an infrastructure of deep learning research, so its development aggressively continues as this research area is rapidly progressed. It will make Tensorflow.rb out of date quickly if the development doesn't continue. Though this project is a personal project of Mr. Arafat, the author recommends moving to team development.

4 Conclusion

In this report, it has been explained that the achievements of the development project of Tensorflow.rb library that carried out on Ruby Grant 2016. And the author has evaluated the achievements and mentioned several hopes for the future development.

References

[1] https://www.tensorflow.org/

[2] jason. *tensorflow is coming to ruby!* Somatic Labs Blog. (2016) http://bit.ly/2oQsT6G

[3] Arafat Khan. *Introducing Tensorflow Ruby API.* (2016) http://bit.ly/2oQIAdX

[4] Arafat Khan. *End Term Report.* Ruby Grant 2016 (to be published)

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