November 26, 2019

Application Ref. #IT16464

Dr. Henry Ling
Director, Research
Mitacs

Dear Dr. Ling,

We thank the reviewers for their comments. We have edited the proposal as per your request and below we are providing detailed responses to Reviewer 1's question 6 and Reviewer 2's questions 3, 4 and 6.

Reviewer 1: Question 6:

During the study, an in-depth analysis will be made of the pros & cons of the baseline approaches versus the new proposed prediction models based on the recurrent neural network architecture. Also, implementation and best practices are another key component of the study to help the readers have a clear path in the development of RNNs in fraud detection.

Reviewer 2:

Questions 3

We regret that the goals were not clear and made the necessary changes to explain them further. The goal of the proposed study is to do an in-depth empirical study on RNNs for fraud detection in comparison to standard prediction baseline approaches. You can see the changes in sections 2.4 and 2.5 on pages 5 to 10.

Questions 4:

We changed our timeline, expected results and outcomes based on the new general and specific objectives to have a clearer methodology. You can see the changes in sections 2.4 and 2.5 on pages 5 to 10.

Questions 6:

We are aware there is a larger literature available and for that a key part of the study is to survey and compile useful information such as strategies on how to deal with imbalance datasets, best practices to train recurrent neural networks, available public financial fraud datasets, and more.

Sincerely

Lourdes Peña-Castillo, PhD.
Associate Professor
Departments of Computer Science, and Biology (joint), Faculty of Science Discipline of Genetics (cross), Faculty of Medicine Memorial University of Newfoundland
Office: ER6037
Phone (709) 864 - 6769