July 16, 2020

Dear Editor,

We are pleased to submit our manuscript entitled xxx for your consideration. Our manuscript is in the scope of xxxx. We believe readers of xxxxx will be

very interested in our work.

Graph neural network(GNN) has become a research hotspot in the field of artificial intelligence due to the state-of-the-art performance achieved in graph-related. At the same time, various of graph neural network parallel or distributed system has appeared one after another. These systems have used their own skills in implement. However, there are very few works to discuss the performance bottleneck on GNN training.

In this study, in contrast to priori works that only present characterizations and just select algorithms cover GNN workloads, we select typical algorithm by complexity of vertex/edge calculation. We analyze the performance bottleneck by breaking down training time, study the affects of hyper-parameters and sampling technology and find factors of memory usage. We finally put forward some key findings for GNN training. It will be interesting to researchers in the field of system and architecture of GNNs.

We confirm that this work is original. It has not been published nor has it been submitted simultaneously

elsewhere. All authors have checked the manuscript and have agreed on the submission.

Thank you very much for your attention and consideration. We are looking forward to your reply.

Sincerely yours,

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