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To: Master Thesis Defence Committee
Klagenfurt University

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Expert Report

On the master thesis of Mr. Christian Bauer

It is a pleasure for me to review the master thesis of Mr. Christian Bauer. The thesis with title "Long Short-Term Memory Based Adaptive Scheduling for Big Data Pipelines Across the Computing Continuum" covers an essential topic in distributed systems, which could lead to improvements in resources and Big Data application management across the computing continuum.

The thesis encompasses 83 pages, and it is divided into seven chapters. It contains 16 figures, 25 tables, and 10 listing. The first chapter discussed the motivation of the thesis and states the research problems and goals. The second chapter provides explanation on the used background technologies, while the third chapter discussed the state-of-the-art approaches. Chapter four and five provide a detailed methodology and architecture of the system. Chapter six provides a detailed evaluation analysis, describes the used test bed, and discusses on the evaluation results. The thesis concludes with a summary and a future work.

The thesis is well written and structured. It is easy to follow and understand. Some improvement in the language is needed (please see detailed comments) and extended evaluation as part of the future work could be beneficial.

It is important to note, that as part of the thesis the candidate published a paper in an IEEE affiliated workshop, namely the 46th Annual Computers, Software, and Applications Conference (COMPSAC).

Overall, the quality of the thesis is high. Therefore, I would like to recommend the thesis to be graded with the highest grade Excellent 1 (One).

Detailed comments:

1. Thesis goals: the goals of the thesis are very well defined and clear.
2. References: the references are sufficient and extensive.
3. Structure: the structure of the thesis if very good.
4. Language: the language is very good, however some minor improvements in direct communication with the candidate can be performed.
5. Methodology: the methodology is clear and extensive.
6. Architecture and implementation: the architecture is presented in sufficient details and the implementation is detailed enough.
7. Evaluation: the evaluation is extensive. As future work some extension in terms of comparison with other prediction algorithms for resources utilization in the computing continuum can be provided.

Best regards,
Priv-. Doz. Dr. Dragi Kimovski