Review of the report: Differentiable Neural Architecture Search

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1 Report Review

1.1 Problem Statement

The report presents a clear problem statement, effectively outlining the motivation for using NAS methods for tabular data. To enhance its comprehensiveness, I recommend including additional references to both boosting methods and neural-based methods. This will provide a broader context and a deeper understanding of the problem's significance.

1.2 Main Idea

The main idea flows naturally from the problem statement, and the choice of method is well-justified. However, it would be beneficial to elaborate further on the PT-DARTS method, both in general and in relation to your specific architecture search.

1.3 Comparison with Relevant Methods

The comparison with other NAS methods is well-presented, but it would benefit from a more detailed analysis of the chosen PT-DARTS method in relation to boosting methods and other neural-based methods. Additionally, consider discussing the performance metrics and computational efficiency of PT-DARTS relative to the other NAS techniques mentioned. This will strengthen the justification for selecting PT-DARTS and offer a more comprehensive evaluation of its effectiveness.

1.4 Styling, Quality and Structure

The report is well-structured, with a clear and logical flow that guides the reader through the problem statement, methodology, and analysis. The quality of writing is high and effectively communicates the key points. However, adding more detailed comparisons and elaborations in certain sections, such as the PT-DARTS method and its comparison with other methods, could enhance the depth and comprehensiveness of the report.

1.5 Experiments and Results

Unfortunately, only the first report was available in the repository, and it did not include the experimental setup or the obtained results. Additionally, no baseline methods were

discussed, making it difficult to suggest further steps. For future experiments, consider including boosting methods, that were mentioned in the problem statement, as baselines for comparison. Furthermore, the report would benefit from a comparison with some neural-based methods that do not use NAS.

2 GitHub Repository Review

When the projects were initially released, there was no README file provided. Although one was added later, it lacks comprehensiveness. It does not specify where to obtain the dataset, and the provided instructions are unclear and do not describe how to reproduce the results. Furthermore, a review of the repository revealed that no results have been achieved thus far. The only code available pertains to the dataset, and while this code appears functional, I was unable to run it due to the lack of clarity on how to download the dataset.

3 Conclusion

Despite the promising problem statement, the work lacks a discussion of baseline methods, an explanation of the experimental setup, and presentation of results. The repository appears almost empty, indicating that a significant amount of work remains to be done.