

Research Summary and Prospect of ELM-Tree Model

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Outlines

- 1 Summary
 - Looking back
 - During the summer vacation

- 2 Prospect

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From the beginning of learning ELM-T model, we have conducted research from the following perspectives:

- **Parallelization** of ELM-Tree model based on Spark
- Solving the problem of **long ELM-Tree construction time** under parallel conditions
- In order to **reduce the total running time**, we wonder if it's effective when the ELM nodes are not trained only marked instead during the training phase, and train the ELM node when the testing phase needs to use.
- Handling **mixed attribute** data which contains symbol and numeric attribute
- **Sensitivity analysis** of parameters, and looking for **statistics** to illustrate the similarity of the results between two columns

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Based on the results that we got from the first section, we did the following work during the holidays:

- Analyzing and comparing **the performance of ELM, ELM-Tree and C4.5** under serial conditions in the form of experimental reports
- Under the serial conditions, analysing **the performance of ELM-Tree with changing the value of parameters**. We have found some rules and organize them into experimental reports.
- **Constructing ELM-Tree with post-pruning method**. We reviewed and summarized several post-pruning methods, and in the coding stage now.

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Thanks!