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Automated machine learning: AI-driven decision making in business analytics:

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The article discusses Auto-Machine Learning. AutoML is a combination of Machine Learning and AI. The field of ML is complex and requires expertise and a certain skill set that is difficult to convey. By combining Machine Learning with AI, it would be possible to automate ML predictability. This article presents a test to see if automated ML (using AI) is more effective than "regular" ML (i.e., manually programmed).

In order to do so, the text is comparing a manually tuned stacked ensemble learner with an H2O AutoML solution. The stacked ensemble mimics H2O AutoML by combining base classifiers. Three real-world case studies were conducted: credit risk, insurance claims, and marketing.

First, baseline models were trained using traditional methods for hyperparameter tuning. Gradient Boosting performed the best, followed by Random Forest, while Deep Learning showed the lowest performance.

Next, the base models were combined into a super learner using stacking, with the combination of Random Forest, Gradient Boosting, and Deep Learning showing the best results across all case studies.

Finally, the stacked super learner was used as a benchmark to evaluate the performance of H2O AutoML. Surprisingly, the stacked ensemble outperformed the AutoML model across all datasets, showing superior performance overall.

Through this study we saw that AutoML serves multiple purposes: speeding up the development of ML projects for experts, making ML models more user-friendly for non-experts, potentially revolutionizing decision-making in business analytics, and empowering individuals by enhancing their capabilities. Ultimately, the goal is to create a future where humans and intelligent systems collaborate, offering greater control over our digitalized and automated world.