Cultivating the culture of responsible data science with Model-Cart

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Cultivating the culture of responsible data science with Model-Cart: A Human-in-the-Loop approach to model training, evaluation, and deployment with Explainability

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**Machine Learning**

Our work introduces Model-Cart, an explainable machine learning framework with human-in-the-loop that enables more reproducible and trustworthy data science. With a user-friendly interface and quantitative and qualitative model explainability techniques, our framework can improve the justifiability of ML model selection in high-stakes settings.

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**Model Training**

Built on Mlflow to leverage state-of-the-art ML pipeline – streamlines training.

✔ Requires dataset and model experiment specs only – helps with reproducibility.

Trained ML models with quantitative evaluation results.

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**Model Evaluation: multiple dimensions considered**

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**Human-in-the-loop: Human decides which model and why?!**

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**Performance is just one dimension**

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**Conclusion**

The best performing machine learning model is used in our website. Our results show that CART decision tree outperforms other models with a rate of 0.820. The best performing model for this approach could improve and ease the process of credit scoring.

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**Model Deployment**

Ready to deploy prioritized models with detailed model reports including a dataset report with pandas Profiling.

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