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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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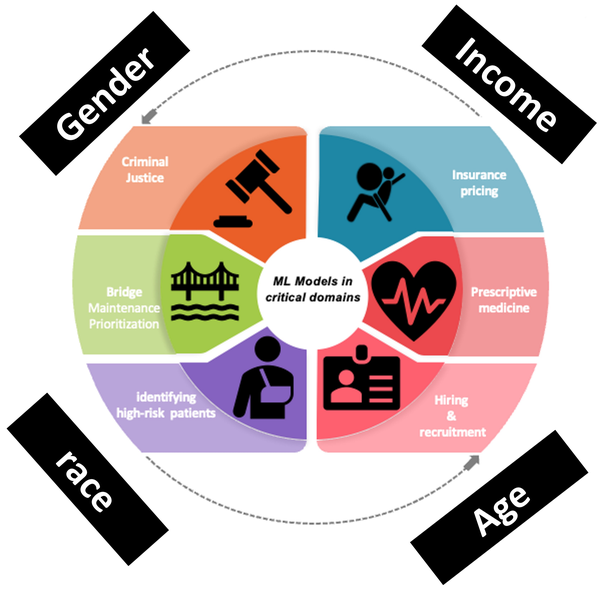
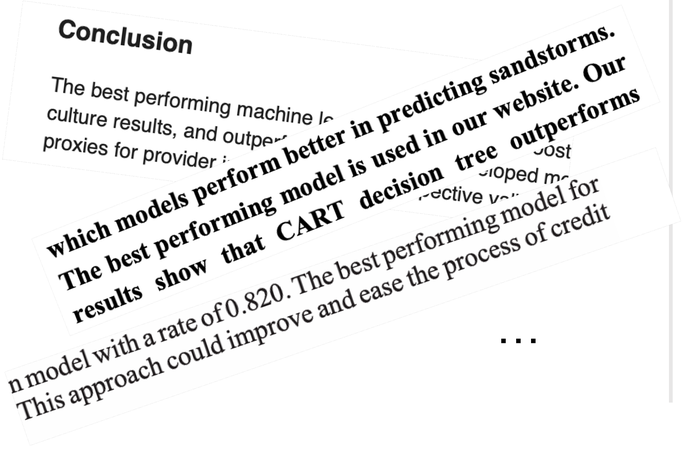
Machine Learning

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.



ML models are integral components of data science in multiple domains

Performance is just one dimension

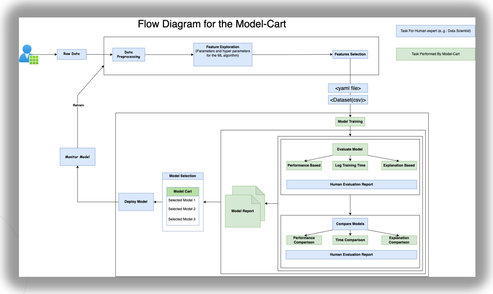


Model Training

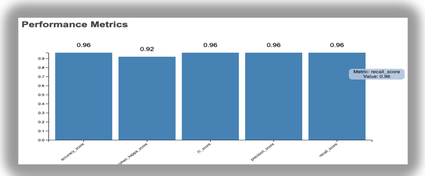
Built on ***MIflow*** *to leverage state-of-the-art ML pipeline – streamlines training.*

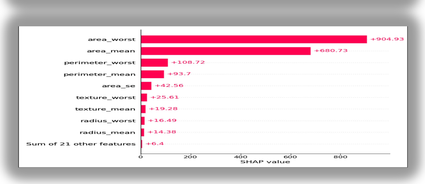
✓ *Requires* ***dataset*** *and* ***model experiment specs*** *only – helps with reproducibility.*

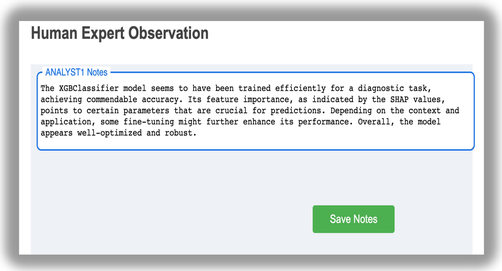
Trained ML models with quantitative evaluation results.



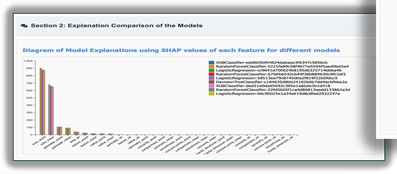
Model Evaluation: *multiple dimensions considered*

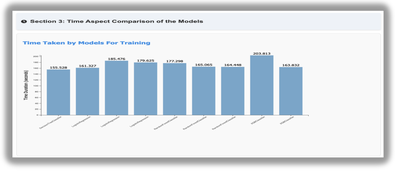


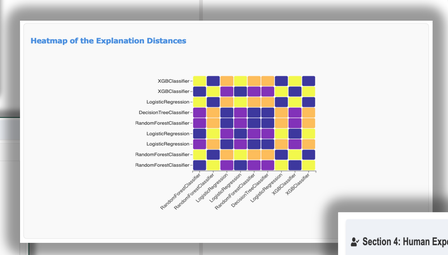


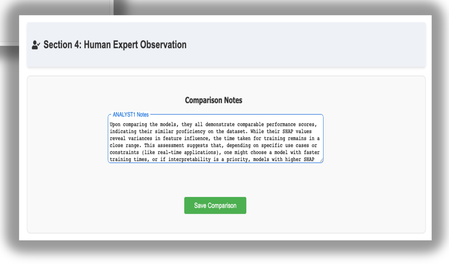


Human-in-the-loop: *Human decides which model and why?!*



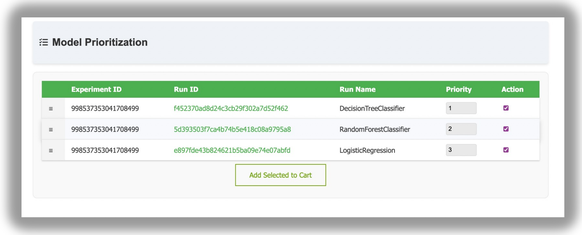


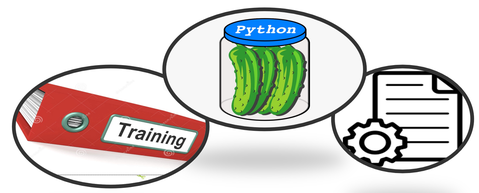


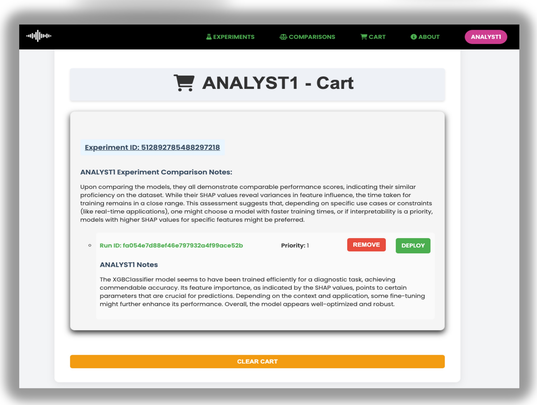


Model Deployment

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







Acknowledgements

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