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FIGHTERS
TEAM
SALK
2
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PLACE

TEAM COHEN

TEAM SALK

	Team Cohen	Team Salk
Predictive Performance	Predict AUC: 0.8563 Train AUC: 0.6171 Challenges: **Underfitting** due to low Train AUC and sensitivity/specificity **Biological interpretation:** Reliance on shedding (post-vaccination variable) is not useful for pre-vaccination prediction.	Predict AUC: 0.825 Train AUC: 0.9583 **Predict prAUC: 0.9676** Train prAUC: 0.3911 Challenges: **Overfitting** with high Train AUC but lower Predict AUC. Low Train prAUC raises concerns about the minority class (12 HR vs 82 LR)
Biological Insights	HAI and IgA are relevant predictors. **Shedding** inclusion makes prediction harder to use as biomarker before vaccination, as this needs to be evaluated following vaccination.	Identified MAPK pathway, critical in pathogen recognition and immune responses.
Innovation	Followed a standard pipeline using provided responder variables.	Created a novel H1N1-specific responder class, showcasing creativity and exploration beyond the given task.

Predict AUC: 0.8563

Training AUC: 0.6171

Predict AUC: 0.825

Training AUC: 0.9583


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TEAM BRENNER

	Team Cohen	Team Salk	Team Brenner
Predictive Performance	Predict AUC: 0.8563 Train AUC: 0.6171	Predict AUC: 0.825 Train AUC: 0.9583 Predict prAUC: 0.9676 Train prAUC: 0.3911	Predict AUC: 0.8758 Train AUC: 0.8678
Biological Insights	HAI and IgA are relevant predictors. Shedding inclusion makes prediction harder to use as biomarker before vaccination.	Identified MAPK pathway, critical in pathogen recognition and immune responses.	Baseline blood and nasal gene signatures identified
Innovation	Followed a standard pipeline using provided responder variables.	Created a novel H1N1-specific responder class, showcasing creativity and exploration beyond the given task.	Highly innovative strategy by unbiasedly generating new responder classes using all measured parameters, identifying three distinct clusters with a strong silhouette score of 0.45.

Predict AUC: 0.8758

Training AUC: 0.8678


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THE ULTIMATE FLU FIGHTERS OF THE 2024

TEAM MATZINGER

Predict AUC: 0.8956

Training AUC: 0.8176

	Team Cohen	Team Salk	Team Brenner	Team Matzinger
Predictive Performance	Predict AUC: 0.8563 Train AUC: 0.6171	Predict AUC: 0.825 Train AUC: 0.9583	Predict AUC: 0.8758 Train AUC: 0.8678	Predict AUC: 0.8956 Train AUC: 0.8176
Biological Insights	HAI and IgA are relevant predictors. Shedding inclusion makes prediction harder to use as biomarker before vaccination.	Identified MAPK pathway, critical in pathogen recognition and immune responses.	Baseline blood and nasal gene signatures identified	All baseline measurements, including gene pathways, antibody and cellular measurements, z-score, gender, pneumo load, etc.
Innovation	Followed a standard pipeline using provided responder variables.	Created a novel H1N1-specific responder class, showcasing creativity and exploration beyond the given task.	Highly innovative strategy by unbiasedly generating new responder classes using all measured parameters, identifying three distinct clusters with a strong silhouette score of 0.45.	Exceptional innovation: 4 different t-SNE/clustering methods, generating 4 datasets, and applying the entire SIMON approach - testing **143 models on each of the 4 datasets**, resulting in a total of **572 analyses**—leading to a comprehensive and successful strategy.


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