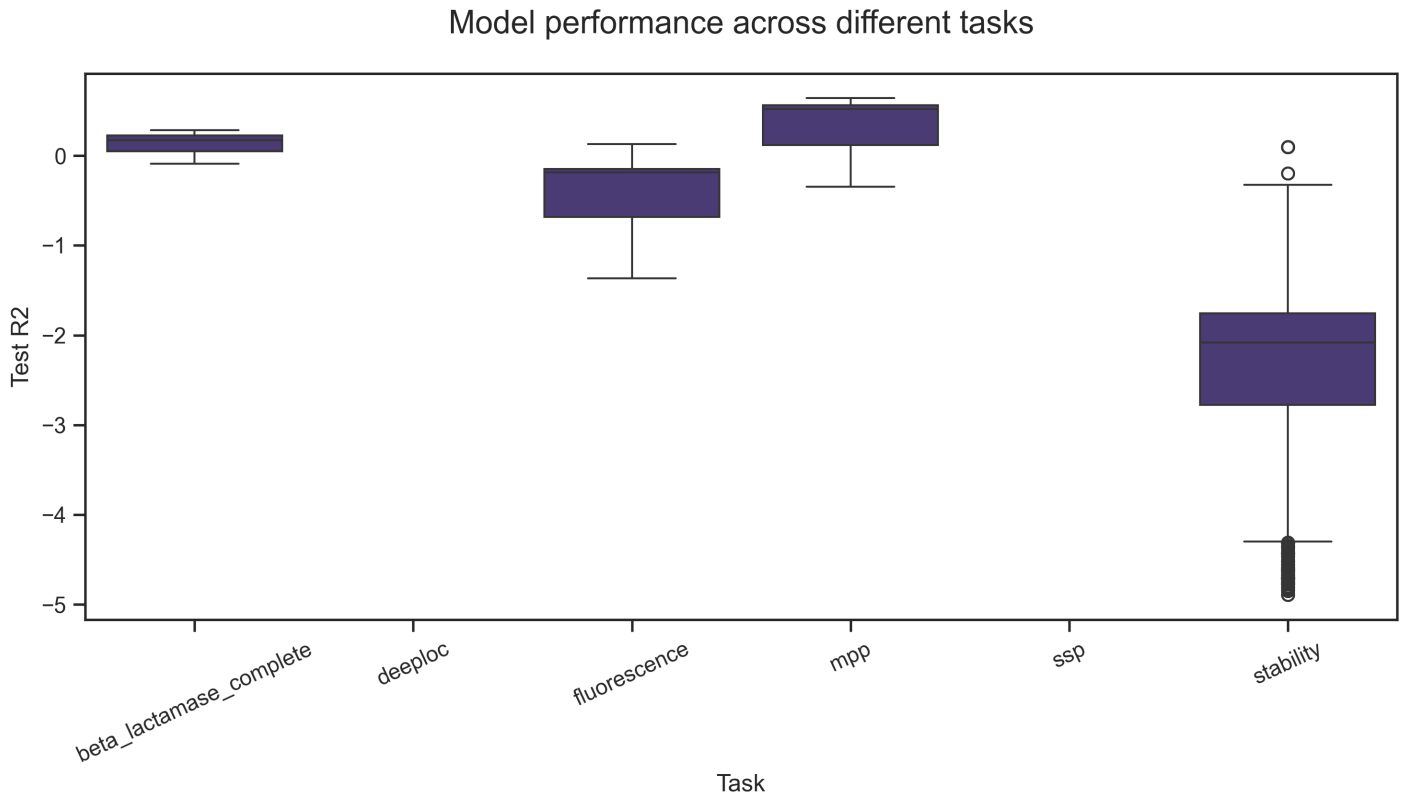
Protein Experiments Analysis Report

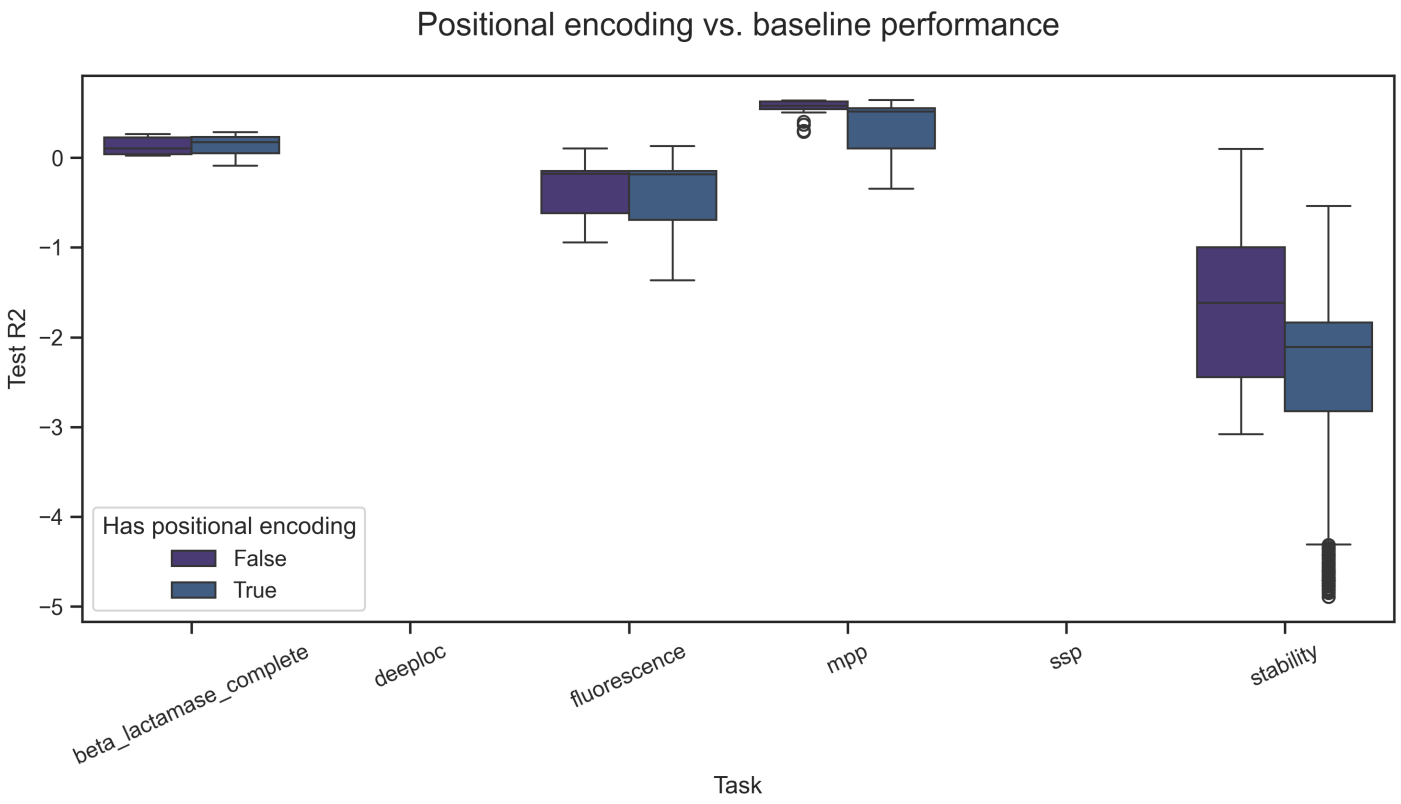
Overall model performance by task



Interpretation

This plot shows the distribution of performance scores for each prediction task. It helps identify which tasks are more challenging and reveals the overall variance in model performance.

Positional encoding vs. baseline performance



Interpretation

This plot compares models with any type of positional encoding against baseline models (without PE). It provides a high-level view of whether positional information is beneficial across different tasks.

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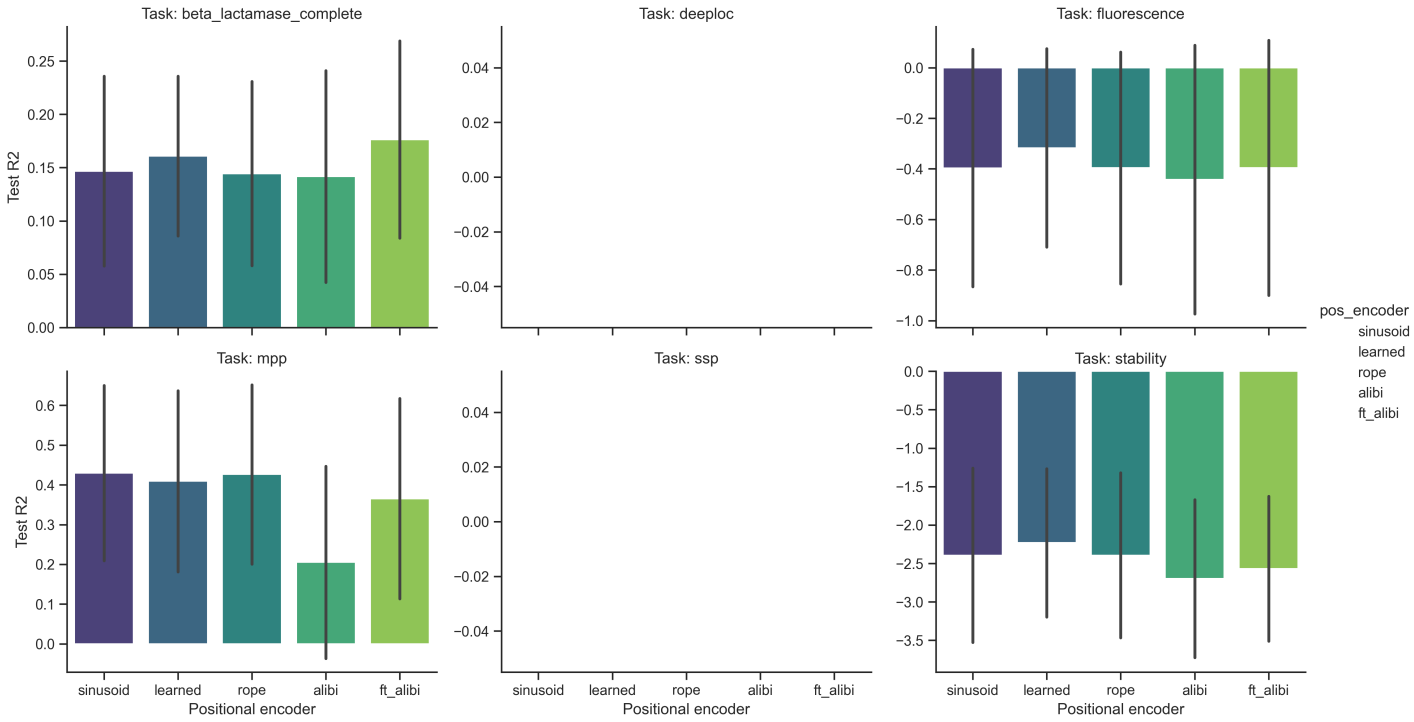
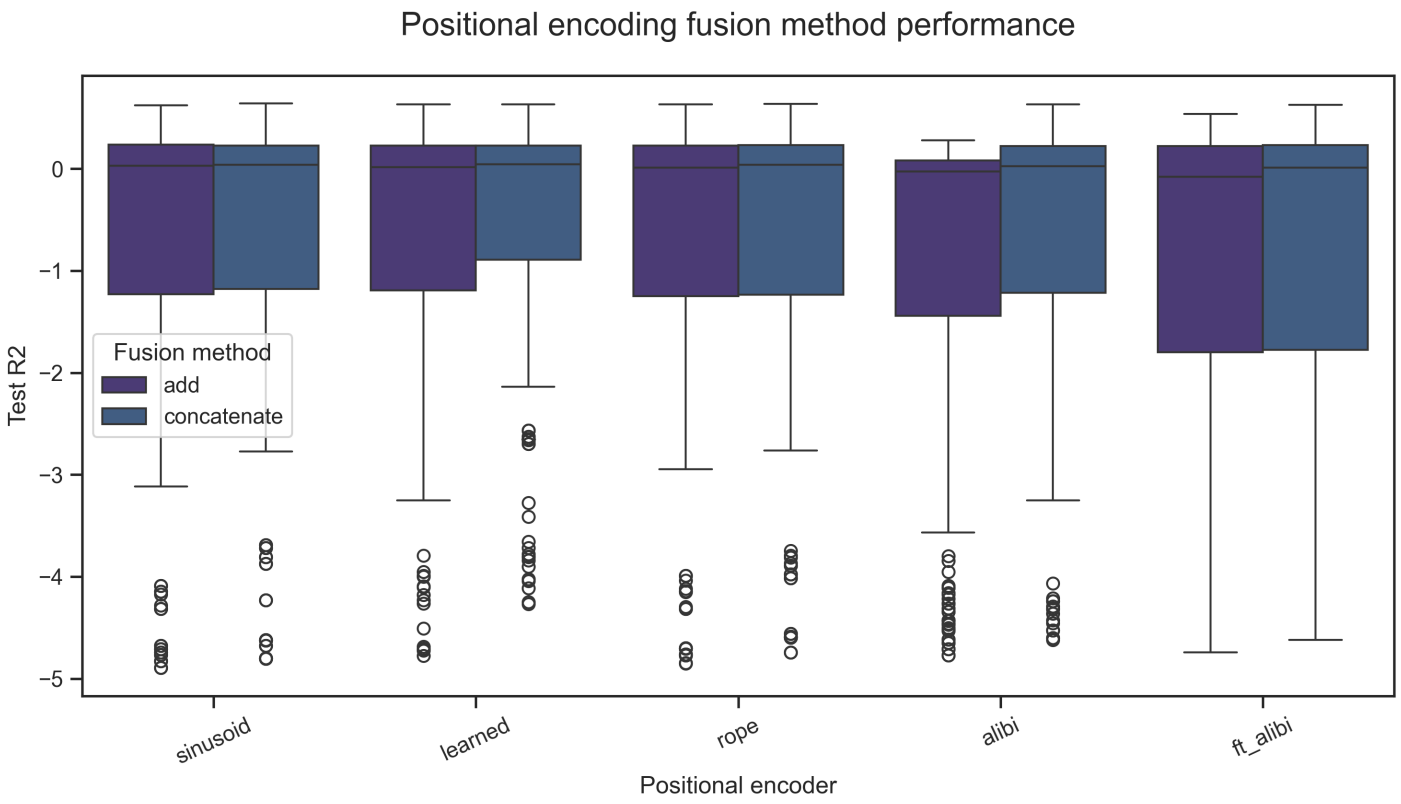
Performance by positional encoder across tasks



Interpretation

This faceted plot details the mean performance of each positional encoding strategy for each task separately. This allows for a granular view of which encoders are most effective for specific problems.

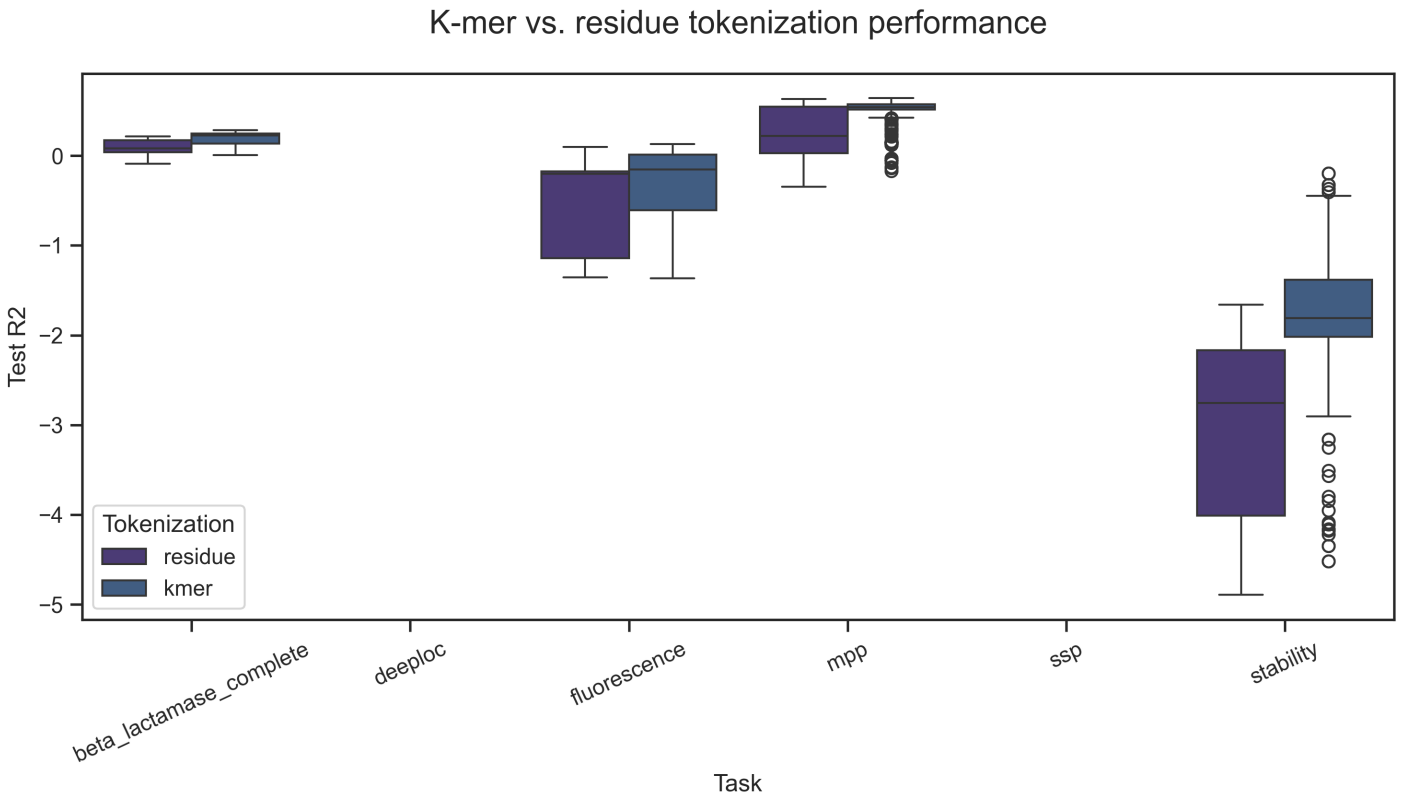
Positional encoding fusion method performance



Interpretation

This plot compares the two fusion methods ('add' vs. 'concatenate') for combining token and positional embeddings. It helps determine which method is generally more effective across different encoders.

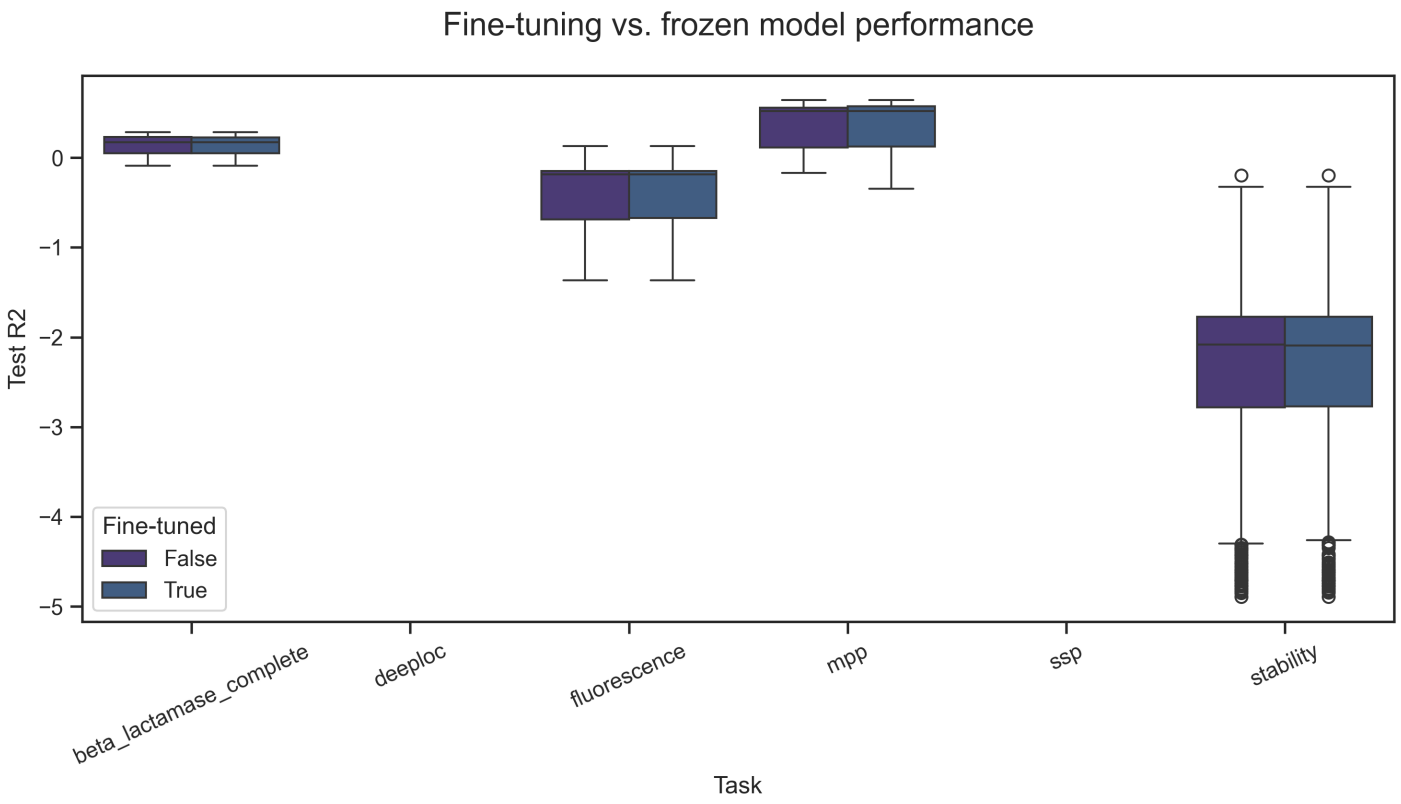
K-mer vs. residue tokenization performance



Interpretation

This plot compares the two tokenization strategies for FastText models. It helps determine whether a residue-level or k-mer-based approach is more suitable for each task.

Fine-tuning vs. frozen model performance



Interpretation

This plot shows the impact of fine-tuning the pre-trained embedder on downstream task performance. It indicates whether task-specific adaptation of the embedding layer is beneficial.

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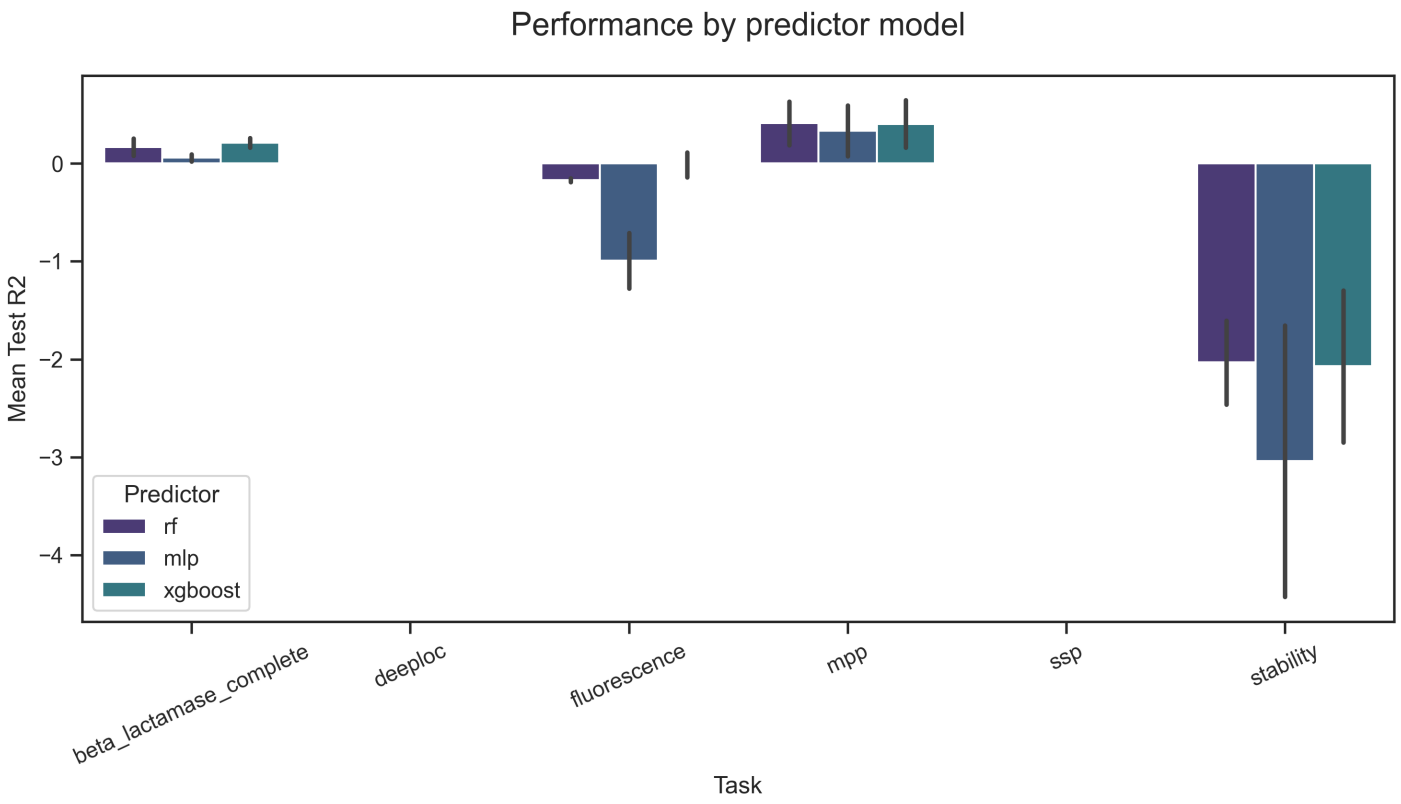
Performance by predictor model



Interpretation

This bar chart shows the mean performance for each type of predictor model. It helps identify which machine learning model is most effective on average for each task.