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Title	Classification of Hypoxic Ischemic Encephalopathy (HIE) in neonates using ECG and a transformer-based model
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Table 1: Evaluation measures of all models using the full dataset and after excluding corresponding borderline 1-hour ECG epochs.

Model	Accuracy (%)	Sensitivity (%)	Specificity (%)	F1 score (%)
XGBoost (all data)	75.46	86.05	68.46	73.63
XGBoost (borderline ECG removed)	80	86.05	75.44	78.72
MLP (all data)	72.22	82.56	65.38	70.3
MLP (borderline ECG removed)	76.5	82.56	71.93	75.13
CNN (all data)	71.76	81.4	65.38	69.65
CNN (borderline ECG removed)	77	81.4	73.68	75.27
Transformer (all data)	72.22	87.21	62.31	71.43
Transformer (borderline ECG removed)	77	87.21	69.3	76.53
TMFormer (all data)	74.07	83.72	67.69	72
TMFormer (borderline ECG removed)	78.5	83.72	74.56	77.01

Table 2: TMFormer performance on 1-hour ECG epochs from the first 12 and 24 hours of birth.

Hours	Number of 1-hour ECG epochs	AUC (%)	Sensitivity (%)	Specificity (%)
12	84	85.91	88.24	78
24	135	84.9	88.68	70.73

Fig. 1 displays the prediction probabilities for a newborn with target category 0, recorded between hours 6 and 34. This signal had minimal noise, resulting in no intermittent gaps. While predictions appear to be less stable in this case, the TMFormer again demonstrates more reliable and consistent performance using the raw ECG input.

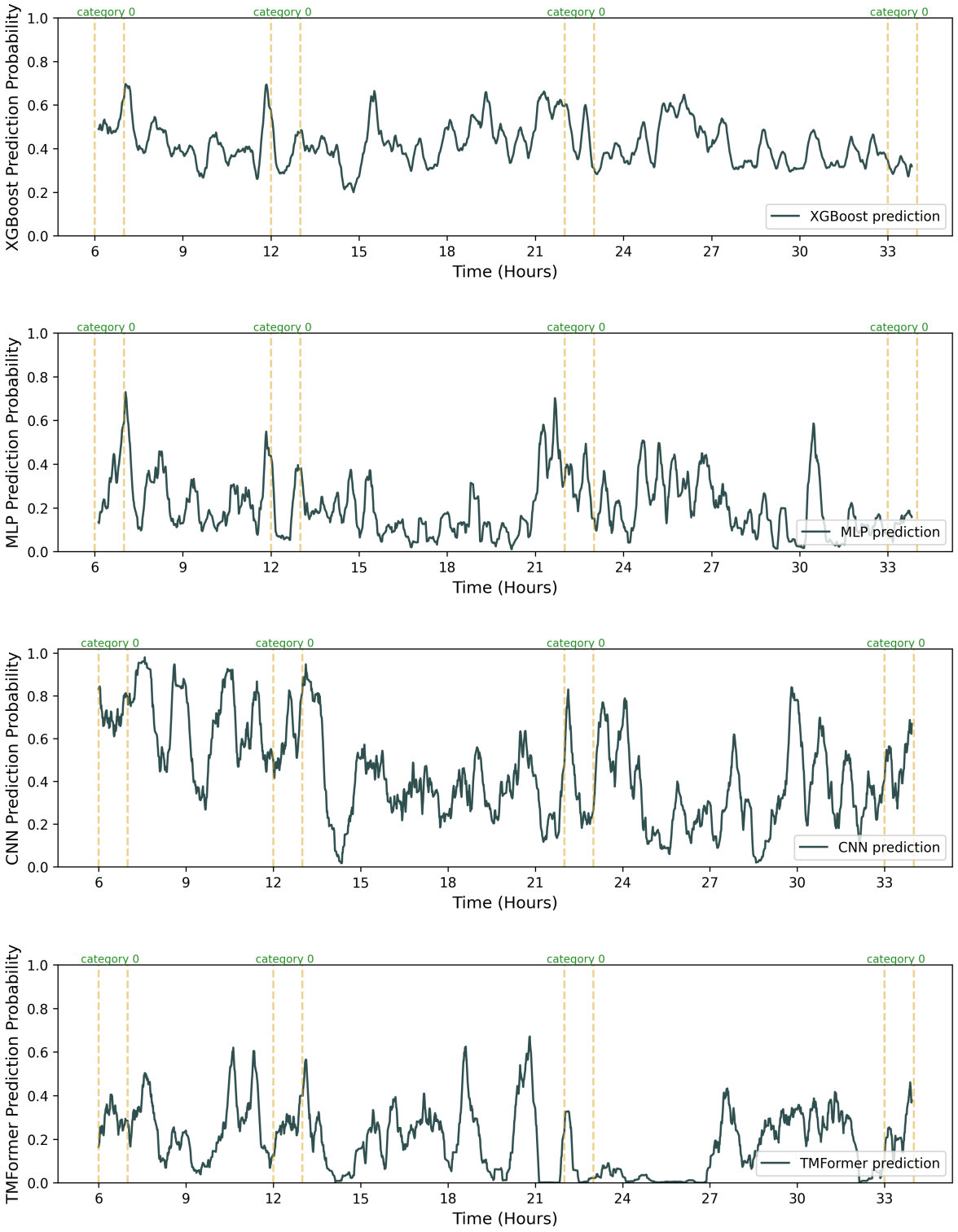


Figure 1: The model predictions of a continuous ECG recording from a single newborn between hour 6 and hour 34 after birth with target category 0. The plots, from top to bottom, show: XGBoost predictions using HR features, MLP predictions using HR features, CNN predictions using ECG spectrograms, and TMFormer model predictions using raw ECG data.