

Appendix

Missing Data Details

Table 1. Percentage of Missing Data for Bioreg Clinical Features

Clinical Feature	Percentage Missing (%)
Age (years)	0.00
Gender	0.00
Swollen Joint Count-28 (SJC28)	19.76
Tender Joint Count-28 (TJC28)	12.34
Disease Activity Score in 28 Joints (DAS28-ESR)	1.76
Clinical Disease Activity Index (CDAI)	22.97
Visual Analog Scale (VAS) Activity (Patient)	17.03
Visual Analog Scale (VAS) Activity (Physician)	7.88
Health Assessment Questionnaire (HAQ) Score	27.64
Erythrocyte Sedimentation Rate (ESR)	9.03
C-Reactive Protein (CRP)	8.27
Rheumatoid Factor (RF)	0.00
Weight	1.02
Conventional Synthetic DMARDs (csDMARDs)	1.08

Table 2. Percentage of Missing Data for Erlangen Clinical Features

Clinical Feature	Percentage Missing (%)
Age (years)	0.00
Gender	0.00
Swollen Joint Count-28 (SJC28)	1.76
Tender Joint Count-28 (TJC28)	1.76
Disease Activity Score in 28 Joints (DAS28-ESR)	1.76
Clinical Disease Activity Index (CDAI)	14.88
Visual Analog Scale (VAS) Activity (Patient)	1.76
Visual Analog Scale (VAS) Activity (Physician)	14.88
Health Assessment Questionnaire (HAQ) Score	1.77
Erythrocyte Sedimentation Rate (ESR)	1.76
C-Reactive Protein (CRP)	0.00
Rheumatoid Factor (RF)	0.00
Weight	0.00
Conventional Synthetic DMARDs (csDMARDs)	0.00

Table 3. P-values for the statistical significance of differences between remission and non-remission groups for variables at baseline.

Characteristic	P-value
Age (years)	2.66e-10
Gender (female %)	0.955
Swollen 28-Joint Count (SJC28)	3.81e-17
Tender 28-Joint Count (TJC28)	1.22e-25
Disease Activity Score 28 (DAS28)	7.80e-61
Clinical Disease Activity Index (CDAI)	1.25e-28
Visual Analogue Scale (VAS) (Physician Assessment)	3.48e-24
Visual Analogue Scale (VAS) (Patient Assessment)	1.30e-25
Health Assessment Questionnaire (HAQ) Score	6.49e-27
Erythrocyte Sedimentation Rate (ESR) (mm)	9.36e-23
C-Reactive Protein (CRP) (mg/l)	7.97e-05
Rheumatoid Factor (RF) (Positive%)	1.70e-01
Weight (kg)	1.00e-01
Conventional Synthetic DMARDs (%csDMARDs)	4.43e-03

Table 4. P-values for the statistical significance of differences between remission and non-remission groups for variables at baseline in the Erlangen dataset.

Characteristic	P-value
Age (years)	0.020
Gender (female %)	0.071
Swollen 28-Joint Count (SJC28)	0.012
Tender 28-Joint Count (TJC28)	5.02e-07
DAS28-ESR Score	1.75e-16
CDAI Score	3.52e-10
Visual Analogue Scale (VAS) (Patient)	2.48e-14
Visual Analogue Scale (VAS) (Physician)	8.86e-12
Health Assessment Questionnaire (HAQ)	1.30e-07
Erythrocyte Sedimentation Rate (ESR) (mm)	1.05e-05
C-Reactive Protein (CRP) (mg/l)	1.29e-01
Rheumatoid Factor (RF) (Positive%)	1.29e-01
Weight (kg)	1.80e-01
Conventional Synthetic DMARDs (% csDMARDs)	0.610

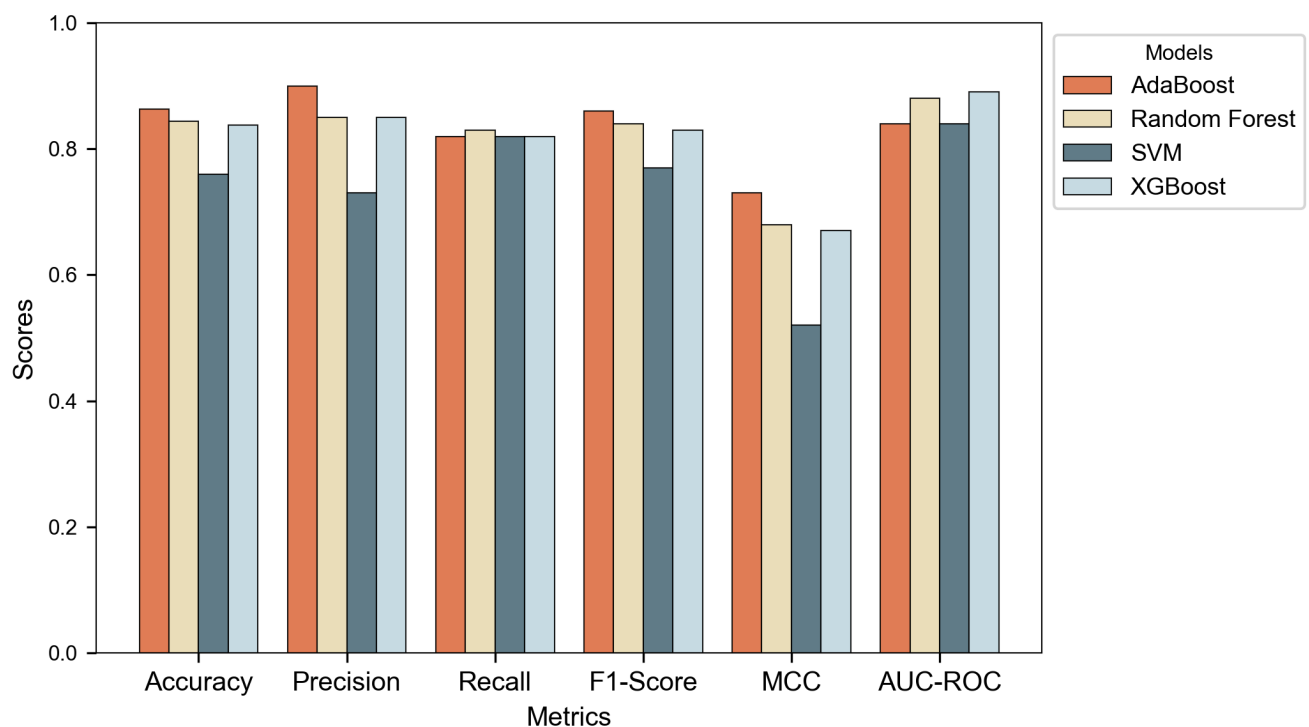


Figure 1. Validation metrics for external validation