

**Table S4** Summary of screened radiomic features in each model, including their number and names.

Model	Radiomics Feature number	Feature names
DeepDMLR	6	original_shape_LeastAxisLength original_shape_Maximum2DDiameterColumn wavelet.LHL_glrIm_RunLengthNonUniformity wavelet.HHL_glszm_SizeZoneNonUniformity wavelet.HHH_glszm_SizeZoneNonUniformity wavelet.LLL_gldm_DependenceNonUniformity
DeepSPLR- AR	7	original_shape_Elongation wavelet.LHL_gldm_SmallDependenceHighGrayLevelEmphasis wavelet.HLH_firstorder_InterquartileRange wavelet.HLH_firstorder_Skewness wavelet.HLH_firstorder_Uniformity wavelet.HHL_glszm_LargeAreaHighGrayLevelEmphasis wavelet.LLL_glszm_LargeAreaLowGrayLevelEmphasis
DeepSPLR- NAR	12	wavelet.LLH_firstorder_Mean wavelet.LLH_firstorder_Median wavelet.HLH_glszm_LowGrayLevelZoneEmphasis wavelet.HHL_glszm_LargeAreaLowGrayLevelEmphasis wavelet.HHL_ngtdm_Busyness wavelet.LLL_firstorder_Minimum wavelet.LLL_glszm_GrayLevelVariance squareroot_ngtdm_Busyness squareroot_ngtdm_Strength logarithm_firstorder_Kurtosis logarithm_gldm_SmallDependenceHighGrayLevelEmphasis exponential_firstorder_90Percentile
DeepRPLR- AR-1	33	original_shape_Elongation original_shape_Flatness wavelet.LLH_glrIm_LongRunHighGrayLevelEmphasis wavelet.LLH_glszm_LargeAreaHighGrayLevelEmphasis

		wavelet.LHL_firstorder_Minimum
		wavelet.LHH_firstorder_Skewness
		wavelet.HLL_firstorder_Minimum
		wavelet.HLL_glrlm_ShortRunHighGrayLevelEmphasis
		wavelet.HLL_glszm_LargeAreaHighGrayLevelEmphasis
		wavelet.HLL_gldm_DependenceVariance
		wavelet.HLH_firstorder_Uniformity
		wavelet.HLH_glrlm_LongRunLowGrayLevelEmphasis
		wavelet.HLH_glszm_SmallAreaLowGrayLevelEmphasis
		wavelet.HHL_glrlm_LongRunLowGrayLevelEmphasis
		wavelet.HHL_glszm_SizeZoneNonUniformityNormalized
		wavelet.HHL_gldm_GrayLevelVariance
		wavelet.HHL_ngtdm_Busyness
		wavelet.HHL_ngtdm_Contrast
		wavelet.HHH_glrlm_GrayLevelVariance
		wavelet.HHH_glszm_GrayLevelNonUniformityNormalized
		wavelet.HHH_glszm_ZonePercentage
		wavelet.HHH_gldm_SmallDependenceHighGrayLevelEmphasis
		wavelet.LLL_ngtdm_Strength
		square_glszm_GrayLevelVariance
		square_gldm_DependenceNonUniformity
		squareroot_firstorder_Kurtosis
		squareroot_firstorder_Skewness
		squareroot_gldm_DependenceVariance
		squareroot_gldm_LargeDependenceHighGrayLevelEmphasis
		logarithm_glszm_SmallAreaEmphasis
		logarithm_ngtdm_Contrast
		logarithm_ngtdm_Strength
		gradient_gldm_DependenceNonUniformity
DeepRPLR-	41	original_shape_Elongation
AR-2		original_shape_Flatness
		original_glszm_SmallAreaLowGrayLevelEmphasis
		wavelet.LLH_glrlm_LongRunHighGrayLevelEmphasis
		wavelet.LLH_glszm_LargeAreaHighGrayLevelEmphasis

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wavelet.LLH\_gldm\_DependenceNonUniformityNormalized  
wavelet.LHL\_firstorder\_Skewness  
wavelet.LHH\_firstorder\_Median  
wavelet.LHH\_firstorder\_Skewness  
wavelet.LHH\_glszm\_GrayLevelNonUniformityNormalized  
wavelet.LHH\_glszm\_SmallAreaEmphasis  
wavelet.LHH\_ngtdm\_Busyness  
wavelet.HLL\_glrlm\_LongRunHighGrayLevelEmphasis  
wavelet.HLL\_ngtdm\_Busyness  
wavelet.HLH\_firstorder\_Uniformity  
wavelet.HLH\_gldm\_LargeDependenceLowGrayLevelEmphasis  
wavelet.HLH\_gldm\_SmallDependenceHighGrayLevelEmphasis  
wavelet.HHL\_glrlm\_LongRunLowGrayLevelEmphasis  
wavelet.HHL\_glszm\_GrayLevelNonUniformityNormalized  
wavelet.HHL\_glszm\_ZoneEntropy  
wavelet.HHL\_glszm\_ZonePercentage  
wavelet.HHL\_gldm\_GrayLevelVariance  
wavelet.HHL\_ngtdm\_Busyness  
wavelet.HHH\_glrlm\_GrayLevelVariance  
wavelet.HHH\_glszm\_GrayLevelNonUniformityNormalized  
wavelet.HHH\_gldm\_DependenceVariance  
wavelet.LLL\_glszm\_SmallAreaLowGrayLevelEmphasis  
square\_glszm\_GrayLevelVariance  
square\_glszm\_SmallAreaEmphasis  
squareroot\_glszm\_SmallAreaEmphasis  
squareroot\_glszm\_SmallAreaLowGrayLevelEmphasis  
squareroot\_gldm\_DependenceVariance  
logarithm\_ngtdm\_Busyness  
logarithm\_ngtdm\_Contrast  
logarithm\_ngtdm\_Strength  
exponential\_glrlm\_LongRunEmphasis  
exponential\_glrlm\_RunVariance  
exponential\_glszm\_SmallAreaEmphasis  
exponential\_ngtdm\_Complexity

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		exponential_ngtdm_Strength
		gradient_gldm_DependenceNonUniformity
DeepRPLR- 23		original_shape_Elongation
AR-3		original_shape_Flatness
		original_shape_MajorAxisLength
		original_shape_Maximum2DDiameterSlice
		original_gldm_DependenceNonUniformity
		wavelet.LHH_firstorder_Kurtosis
		wavelet.LHH_glszm_SmallAreaEmphasis
		wavelet.HLL_glrlm_LongRunHighGrayLevelEmphasis
		wavelet.HLL_glrlm_RunLengthNonUniformity
		wavelet.HLH_firstorder_Skewness
		wavelet.HHL_glszm_ZonePercentage
		wavelet.HHL_ngtdm_Busyness
		wavelet.HHL_ngtdm_Contrast
		wavelet.HHH_gldm_DependenceVariance
		wavelet.LLL_firstorder_Median
		wavelet.LLL_ngtdm_Strength
		square_gldm_GrayLevelNonUniformity
		squareroot_glszm_SmallAreaLowGrayLevelEmphasis
		squareroot_gldm_DependenceNonUniformity
		logarithm_ngtdm_Busyness
		logarithm_ngtdm_Contrast
		exponential_glrlm_ShortRunLowGrayLevelEmphasis
		exponential_glszm_SmallAreaEmphasis
DeepRPLR- 9		original_shape_Sphericity
NAR-1		wavelet.HLL_glszm_SizeZoneNonUniformityNormalized
		wavelet.HHL_glrlm_RunVariance
		wavelet.HHL_ngtdm_Busyness
		wavelet.HHL_ngtdm_Strength
		wavelet.HHH_glrlm_RunVariance
		wavelet.LLL_glrlm_GrayLevelNonUniformity
		squareroot_ngtdm_Busyness
		logarithm_glszm_ZoneVariance

DeepRPLR-	13	original_shape_Sphericity
NAR-2		wavelet.LHL_glszm_LargeAreaLowGrayLevelEmphasis
		wavelet.HLL_glszm_SizeZoneNonUniformityNormalized
		wavelet.HLH_ngtdm_Busyness
		wavelet.HHL_glrlm_RunVariance
		wavelet.HHL_gldm_SmallDependenceEmphasis
		wavelet.HHL_gldm_SmallDependenceHighGrayLevelEmphasis
		wavelet.HHL_ngtdm_Busyness
		wavelet.HHL_ngtdm_Strength
		wavelet.HHH_glrlm_RunVariance
		square_glrlm_GrayLevelNonUniformity
		logarithm_glszm_ZoneVariance
		gradient_glszm_SmallAreaLowGrayLevelEmphasis
DeepRPLR-	6	wavelet.LHH_glrlm_ShortRunEmphasis
NAR-3		wavelet.HLH_ngtdm_Busyness
		wavelet.HHL_ngtdm_Busyness
		wavelet.HHH_glrlm_RunVariance
		wavelet.LLL_glrlm_GrayLevelNonUniformity
		square_glrlm_GrayLevelNonUniformity