

Supplementary Table 1. Top selected radiomics features

Top features (modality_name_reagon_featurefamily_feature)
T1_ED_Intensity_Range
T1_ED_Intensity_Skewness
T1_ED_Intensity_Variance
T1_ED_Histogram_Bins-16_Bins-16_Bin-11_Frequency
T1_ED_Histogram_Bins-16_Bins-16_Kurtosis
T1_ED_Histogram_Bins-16_Bins-16_Median
T1_ED_Histogram_Bins-16_Bins-16_SeventyFifthPercentile
T1_ED_Histogram_Bins-16_Bins-16_TenthPercentile
T1_ED_GLCM_Bins-16_Radius-1_ClusterProminence
T1_ED_GLCM_Bins-16_Radius-1_Contrast
T1_ED_GLRLM_Bins-16_Radius-1_LongRunHighGreyLevelEmphasis
T1_ED_GLSZM_Bins-16_Radius-1_GreyLevelNonUniformity
T1_ED_GLSZM_Bins-16_Radius-1_LargeZoneEmphasis
T1_ED_GLSZM_Bins-16_Radius-1_ZoneSizeMean
T1_ED_GLSZM_Bins-16_Radius-1_ZoneSizeVariance
T1_ET_Histogram_Bins-16_Bins-16_Bin-1_Frequency
T1_ET_Histogram_Bins-16_Bins-16_Bin-2_Frequency
T1_ET_Histogram_Bins-16_Bins-16_Bin-5_Frequency
T1_ET_Histogram_Bins-16_Bins-16_Bin-9_Frequency
T1_ET_Histogram_Bins-16_Bins-16_Kurtosis
T1_ET_Histogram_Bins-16_Bins-16_Median
T1_ET_Histogram_Bins-16_Bins-16_Mode
T1_ET_Morphologic_EllipseDiameter_Axis-2
T1_ET_GLCM_Bins-16_Radius-1_ClusterShade
T1_ET_GLCM_Bins-16_Radius-1_Entropy
T1_ET_GLRLM_Bins-16_Radius-1_LongRunHighGreyLevelEmphasis
T1_ET_GLSZM_Bins-16_Radius-1_ZoneSizeNonUniformity
T1_ET_GLSZM_Bins-16_Radius-1_ZoneSizeVariance
T1_NC_Histogram_Bins-16_Bins-16_Bin-0_Frequency
T1_NC_Histogram_Bins-16_Bins-16_Bin-14_Frequency
T1_NC_Histogram_Bins-16_Bins-16_Bin-2_Frequency
T1_NC_Histogram_Bins-16_Bins-16_Bin-6_Frequency
T1_NC_Histogram_Bins-16_Bins-16_Bin-7_Frequency
T1_NC_Histogram_Bins-16_Bins-16_FifthPercentileMean
T1_NC_Histogram_Bins-16_Bins-16_NinetyethPercentile
T1_NC_Histogram_Bins-16_Bins-16_Skewness
T1_NC_Histogram_Bins-16_Bins-16_TwentyFifthPercentile
T1_NC_Morphologic_EllipseDiameter_Axis-1
T1_NC_Morphologic_Perimeter
T1_NC_Morphologic_PerimeterOnBorder
T1_NC_GLRLM_Bins-16_Radius-1_GreyLevelNonuniformity
T1_NC_GLSZM_Bins-16_Radius-1_GreyLevelVariance

Table 1. Continued

Top features (modality_name_reagon_featurefamily_feature)
T1_NC_NGTDComplexity
T2_ED_Intensity_Energy
T2_ED_Intensity_InterQuartileRange
T2_ED_Intensity_Maximum
T2_ED_Intensity_MedianAbsoluteDeviation
T2_ED_Histogram_Bins-16_Bins-16_Bin-10_Frequency
T2_ED_Histogram_Bins-16_Bins-16_Bin-4_Frequency
T2_ED_Histogram_Bins-16_Bins-16_Bin-5_Frequency
T2_ED_Histogram_Bins-16_Bins-16_InterQuartileRange
T2_ED_Histogram_Bins-16_Bins-16_MedianAbsoluteDeviation
T2_ED_Histogram_Bins-16_Bins-16_Skewness
T2_ED_Histogram_Bins-16_Bins-16_StandardDeviation
T2_ED_GLCM_Bins-16_Radius-1_AutoCorrelation
T2_ED_GLCM_Bins-16_Radius-1_ClusterShade
T2_ED_GLSZM_Bins-16_Radius-1_GreyLevelMean
T2_ED_GLSZM_Bins-16_Radius-1_GreyLevelNonUniformity
T2_ED_GLSZM_Bins-16_Radius-1_LargeZoneLowGreyLevelEmphasis
T2_ED_NGTDComplexity
T2_ET_Intensity_Energy
T2_ET_Intensity_InterQuartileRange
T2_ET_Intensity_Mode
T2_ET_Intensity_Skewness
T2_ET_Intensity_Sum
T2_ET_Intensity_TenthPercentile
T2_ET_Histogram_Bins-16_Bins-16_Bin-13_Frequency
T2_ET_Histogram_Bins-16_Bins-16_Bin-2_Frequency
T2_ET_Histogram_Bins-16_Bins-16_Bin-6_Frequency
T2_ET_Histogram_Bins-16_Bins-16_Energy
T2_ET_Histogram_Bins-16_Bins-16_RootMeanSquare
T2_ET_Histogram_Bins-16_Bins-16_Skewness
T2_ET_Histogram_Bins-16_Bins-16_TenthPercentile
T2_ET_Morphologic_EllipseDiameter_Axis-2
T2_ET_GLSZM_Bins-16_Radius-1_GreyLevelNonUniformity
T2_ET_GLSZM_Bins-16_Radius-1_HighGreyLevelEmphasis
T2_ET_GLSZM_Bins-16_Radius-1_LargeZoneEmphasis
T2_ET_GLSZM_Bins-16_Radius-1_SmallZoneHighGreyLevelEmphasis
T2_ET_GLSZM_Bins-16_Radius-1_ZoneSizeMean
T2_ET_GLSZM_Bins-16_Radius-1_ZoneSizeVariance
T2_NC_Intensity_Energy
T2_NC_Intensity_InterQuartileRange
T2_NC_Intensity_MedianAbsoluteDeviation
T2_NC_Intensity_Mode

Table 1. Continued

Top features (modality_name_reagon_featurefamily_feature)
T2_NC_Intensity_Variance
T2_NC_Histogram_Bins-16_Bins-16_Bin-10_Frequency
T2_NC_Histogram_Bins-16_Bins-16_Bin-13_Frequency
T2_NC_Histogram_Bins-16_Bins-16_Bin-3_Frequency
T2_NC_Histogram_Bins-16_Bins-16_Bin-4_Frequency
T2_NC_Histogram_Bins-16_Bins-16_Bin-9_Frequency
T2_NC_Histogram_Bins-16_Bins-16_Entropy
T2_NC_Histogram_Bins-16_Bins-16_FifthPercentile
T2_NC_Histogram_Bins-16_Bins-16_FifthPercentileMean
T2_NC_Histogram_Bins-16_Bins-16_NinetiethPercentile
T2_NC_Histogram_Bins-16_Bins-16_StandardDeviation
T2_NC_Morphologic_Perimeter
T2_NC_GLCM_Bins-16_Radius-1_Entropy
T2_NC_GLSZM_Bins-16_Radius-1_HighGreyLevelEmphasis
T2_NC_GLSZM_Bins-16_Radius-1_ZoneSizeEntropy
T2_NC_GLSZM_Bins-16_Radius-1_ZoneSizeMean
T1GD_ED_Intensity_Energy
T1GD_ED_Intensity_InterQuartileRange
T1GD_ED_Intensity_MedianAbsoluteDeviation
T1GD_ED_Intensity_Sum
T1GD_ED_Histogram_Bins-16_Bins-16_Bin-11_Frequency
T1GD_ED_Histogram_Bins-16_Bins-16_Bin-12_Frequency
T1GD_ED_Histogram_Bins-16_Bins-16_Bin-3_Frequency
T1GD_ED_Histogram_Bins-16_Bins-16_Bin-5_Frequency
T1GD_ED_Histogram_Bins-16_Bins-16_Entropy
T1GD_ED_Histogram_Bins-16_Bins-16_MedianAbsoluteDeviation
T1GD_ED_Histogram_Bins-16_Bins-16_Mode
T1GD_ED_Morphologic_EllipseDiameter_Axis-2
T1GD_ED_GLCM_Bins-16_Radius-1_ClusterShade
T1GD_ED_GLSZM_Bins-16_Radius-1_GreyLevelVariance
T1GD_ED_GLSZM_Bins-16_Radius-1_ZoneSizeNonUniformity
T1GD_ET_Intensity_MedianAbsoluteDeviation
T1GD_ET_Histogram_Bins-16_Bins-16_Bin-12_Frequency
T1GD_ET_Histogram_Bins-16_Bins-16_Bin-7_Frequency
T1GD_ET_Histogram_Bins-16_Bins-16_Mode
T1GD_ET_Histogram_Bins-16_Bins-16_TwentyFifthPercentile
T1GD_ET_GLRM_Bins-16_Radius-1_GreyLevelNonuniformity
T1GD_ET_GLSZM_Bins-16_Radius-1_LargeZoneHighGreyLevelEmphasis
T1GD_ET_GLSZM_Bins-16_Radius-1_LargeZoneLowGreyLevelEmphasis
T1GD_ET_NGTD_M_Busyness
T1GD_ET_NGTD_M_Complexity
T1GD_NC_Intensity_Maximum

Table 1. Continued

Top features (modality_name_reagon_featurefamily_feature)
T1GD_NC_Intensity_Minimum
T1GD_NC_Intensity_Skewness
T1GD_NC_Histogram_Bins-16_Bins-16_Bin-0_Frequency
T1GD_NC_Histogram_Bins-16_Bins-16_Bin-10_Frequency
T1GD_NC_Histogram_Bins-16_Bins-16_Bin-12_Frequency
T1GD_NC_Histogram_Bins-16_Bins-16_Bin-14_Frequency
T1GD_NC_Histogram_Bins-16_Bins-16_Bin-15_Frequency
T1GD_NC_Histogram_Bins-16_Bins-16_Bin-2_Frequency
T1GD_NC_Histogram_Bins-16_Bins-16_Bin-7_Frequency
T1GD_NC_Histogram_Bins-16_Bins-16_Entropy
T1GD_NC_Histogram_Bins-16_Bins-16_Kurtosis
T1GD_NC_Histogram_Bins-16_Bins-16_Skewness
T1GD_NC_Morphologic_EllipseDiameter_Axis-1
T1GD_NC_Morphologic_Perimeter
T1GD_NC_GLCM_Bins-16_Radius-1_AutoCorrelation
T1GD_NC_GLCM_Bins-16_Radius-1_Contrast
T1GD_NC_GLSZM_Bins-16_Radius-1_GreyLevelNonUniformity
T1GD_NC_GLSZM_Bins-16_Radius-1_SmallZoneHighGreyLevelEmphasis
T1GD_NC_GLSZM_Bins-16_Radius-1_ZoneSizeMean
T1GD_NC_NGTD_M_Complexity
FLAIR_ED_Intensity_Maximum
FLAIR_ED_Intensity_MedianAbsoluteDeviation
FLAIR_ED_Intensity_Minimum
FLAIR_ED_Intensity_Mode
FLAIR_ED_Histogram_Bins-16_Bins-16_Bin-12_Frequency
FLAIR_ED_Histogram_Bins-16_Bins-16_Bin-6_Frequency
FLAIR_ED_Histogram_Bins-16_Bins-16_Bin-7_Frequency
FLAIR_ED_Histogram_Bins-16_Bins-16_Entropy
FLAIR_ED_Histogram_Bins-16_Bins-16_Median
FLAIR_ED_Histogram_Bins-16_Bins-16_Mode
FLAIR_ED_Histogram_Bins-16_Bins-16_NinetiethPercentile
FLAIR_ED_Histogram_Bins-16_Bins-16_TenthPercentile
FLAIR_ED_Histogram_Bins-16_Bins-16_TwentyFifthPercentile
FLAIR_ED_Morphologic_EllipseDiameter_Axis-2
FLAIR_ED_Morphologic_Elongation
FLAIR_ED_GLCM_Bins-16_Radius-1_Entropy
FLAIR_ED_GLSZM_Bins-16_Radius-1_GreyLevelNonUniformity
FLAIR_ED_GLSZM_Bins-16_Radius-1_ZoneSizeNonUniformity
FLAIR_ED_NGTD_M_Complexity
FLAIR_ET_Intensity_NinetiethPercentile
FLAIR_ET_Histogram_Bins-16_Bins-16_Bin-14_Frequency
FLAIR_ET_Histogram_Bins-16_Bins-16_Bin-15_Frequency

Table 1. Continued

Top features (modality_name_reagon_featurefamily_feature)
FLAIR_ET_Histogram_Bins-16_Bins-16_Bin-3_Frequency
FLAIR_ET_Histogram_Bins-16_Bins-16_Bin-5_Frequency
FLAIR_ET_Histogram_Bins-16_Bins-16_InterQuartileRange
FLAIR_ET_Histogram_Bins-16_Bins-16_MedianAbsoluteDeviation
FLAIR_ET_Histogram_Bins-16_Bins-16_Mode
FLAIR_ET_Histogram_Bins-16_Bins-16_TwentyFifthPercentile
FLAIR_ET_GLSZM_Bins-16_Radius-1_GreyLevelMean
FLAIR_ET_GLSZM_Bins-16_Radius-1_GreyLevelNonUniformity
FLAIR_ET_GLSZM_Bins-16_Radius-1_HighGreyLevelEmphasis
FLAIR_ET_GLSZM_Bins-16_Radius-1_LargeZoneLowGreyLevelEmphasis
FLAIR_ET_GLSZM_Bins-16_Radius-1_SmallZoneHighGreyLevelEmphasis
FLAIR_ET_GLSZM_Bins-16_Radius-1_ZoneSizeMean
FLAIR_ET_GLSZM_Bins-16_Radius-1_ZoneSizeNonUniformity
FLAIR_ET_NGTD_M Complexity
FLAIR_NC_Intensity_Maximum
FLAIR_NC_Intensity_Mean
FLAIR_NC_Intensity_Median
FLAIR_NC_Intensity_Minimum
FLAIR_NC_Histogram_Bins-16_Bins-16_Bin-11_Frequency
FLAIR_NC_Histogram_Bins-16_Bins-16_Bin-5_Frequency
FLAIR_NC_Histogram_Bins-16_Bins-16_Entropy
FLAIR_NC_Histogram_Bins-16_Bins-16_MedianAbsoluteDeviation
FLAIR_NC_Histogram_Bins-16_Bins-16_RobustMeanAbsoluteDeviation1090
FLAIR_NC_Histogram_Bins-16_Bins-16_SeventyFifthPercentile
FLAIR_NC_Histogram_Bins-16_Bins-16_Skewness
FLAIR_NC_Morphologic_EllipseDiameter_Axis-1
FLAIR_NC_Morphologic_Perimeter
FLAIR_NC_GLCM_Bins-16_Radius-1_AutoCorrelation
FLAIR_NC_GLCM_Bins-16_Radius-1_ClusterShade
FLAIR_NC_GLCM_Bins-16_Radius-1_Entropy
FLAIR_NC_GLRLM_Bins-16_Radius-1_LongRunHighGreyLevelEmphasis
FLAIR_NC_GLSZM_Bins-16_Radius-1_GreyLevelVariance

T1 : T1-weighted, ED : edema, GLCM : gray level co-occurrence matrix, GLRLM : gray level run length matrix, GLSZM : grey level size zone matrix, ET : enhancing tumor, NC : necrosis, NGTDM : neighboring gray tone difference matrix, T2 : T2-weighted, T1GD : T1 with gadolinium, FLAIR : fluid-attenuated inversion recovery