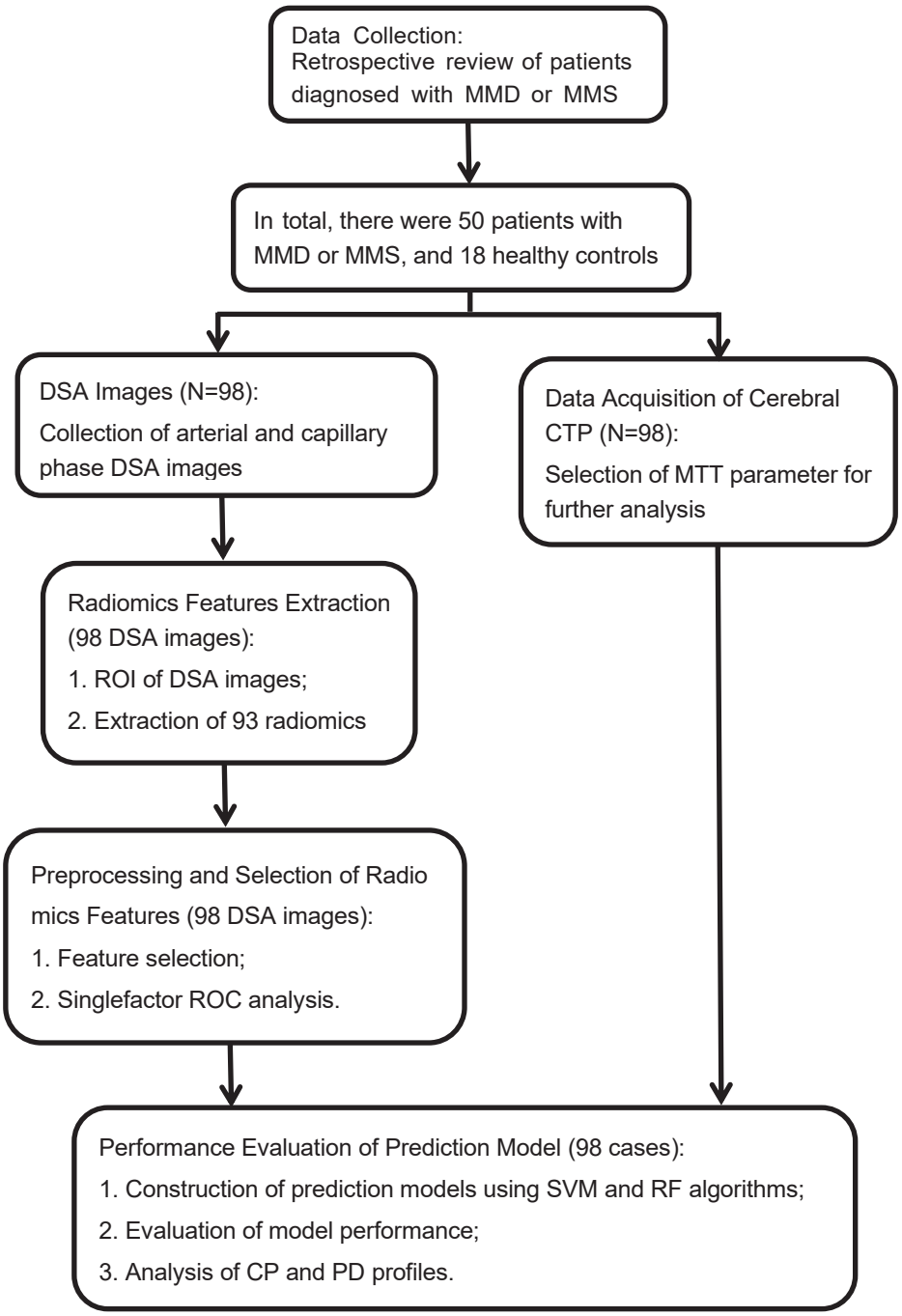

Figure S1 The research process of this study. MMD, moyamoya disease; MMS, moyamoya syndrome; DSA, digital subtraction angiography; CTP, computed tomography perfusion; MTT, mean transit time; ROI, region of interest; ROC, receiver operating characteristic; SVM, support vector machine; RF, random forest; CP, ceteris paribus; PD, partial dependence.

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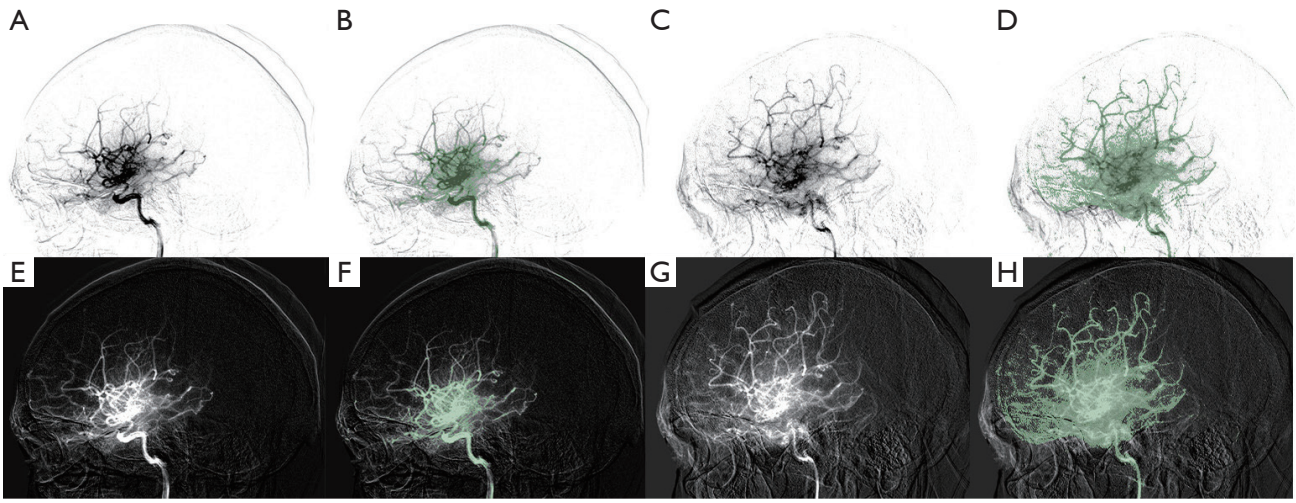

Figure S2 Graphic representation of segmentation of target region (green) on DSA images of a patient with moyamoya disease. (A,B) Positive image of arterial phase; (C,D) positive image of capillary phase; (E,F) negative image of arterial phase; (G,H) negative image of capillary phase. DSA, digital subtraction angiography.

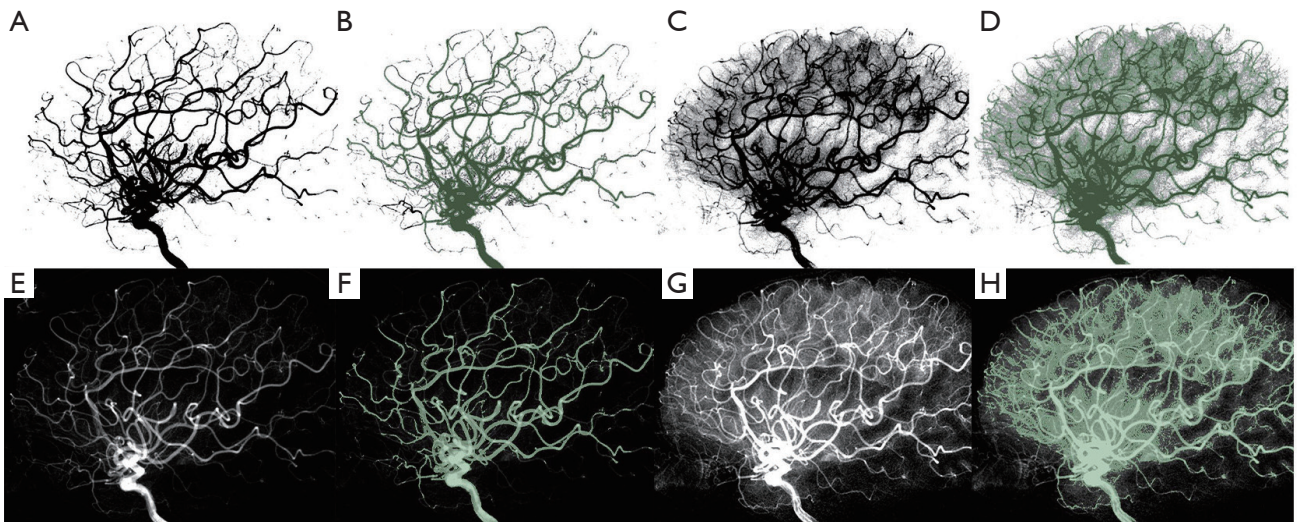

Figure S3 Graphic representation of segmentation of target region (green) on DSA images of a control. (A,B) Positive image of arterial phase; (C,D) positive image of capillary phase; (E,F) negative image of arterial phase; (G,H) negative image of capillary phase. DSA, digital subtraction angiography.

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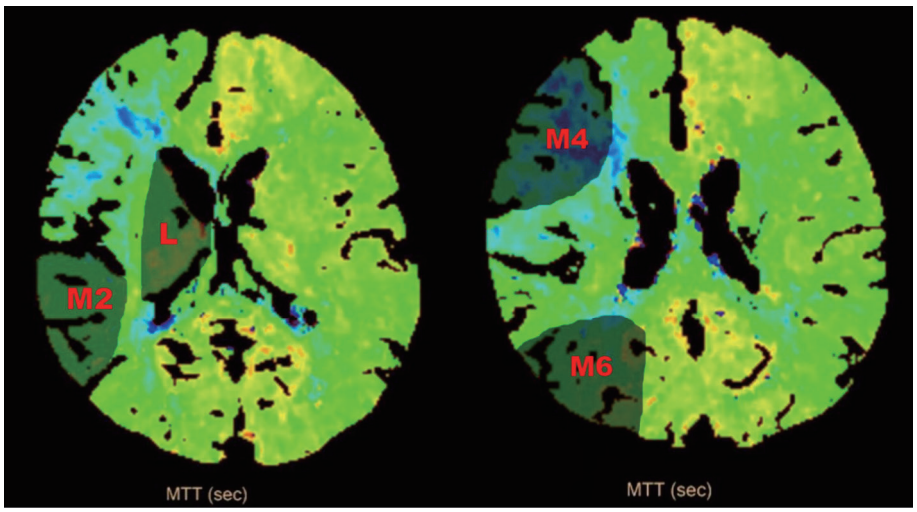

Figure S4 The MTT result of a patient with moyamoya disease and the corresponding range selected according to the ASPECT score (L, M2, M4, M6). MTT, mean transit time; ASPECT, Alberta Stroke Programme Early CT.

Table S1 Distributional differences of important variables between test set and training set for temporal lobe

Variables	Test set (N=19)	Training set (N=79)	P value
Subjects			>0.99
Healthy controls	6 (31.6%)	26 (32.9%)	
Patients	13 (68.4%)	53 (67.1%)	
Total energy	0.02 (1.16)	−0.01 (0.97)	0.918
Gray level non uniformity	0.06 (1.27)	−0.02 (0.93)	0.803
Zone variance	−0.11 (1.09)	0.03 (0.98)	0.617

Data are shown as n (%) or mean (standard deviation).

Table S2 Distributional differences of important variables between test set and training set for parietal lobe

Variables	Test set (N=19)	Training set (N=79)	P value
Subjects			>0.99
Healthy controls	4 (21.1%)	16 (20.3%)	
Patients	15 (78.9%)	63 (79.7%)	
Low gray level run emphasis	0.22 (0.97)	−0.05 (1.01)	0.279
Gray level non uniformity	−0.07 (0.79)	0.02 (1.05)	0.696
Small area emphasis	0.24 (1.11)	−0.06 (0.97)	0.302

Data are shown as n (%) or mean (standard deviation).

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Table S3 Distributional differences of important variables between test set and training set for frontal lobe

Variables	Test set (N=19)	Training set (N=79)	P value
Subjects			>0.99
Healthy controls	5 (26.3%)	23 (29.1%)	
Patients	14 (73.7%)	56 (70.9%)	
Imc1	0.13 (0.96)	–0.03 (1.01)	0.526
Total energy	0.05 (0.93)	–0.01 (1.02)	0.792
Long run high gray level emphasis	–0.13 (1.02)	0.03 (1.00)	0.535
Zone variance	–0.11 (0.97)	0.03 (1.01)	0.583

Data are shown as n (%) or mean (standard deviation).

Table S4 Parameters of prediction models

Prediction models	Parameters
RF for basal ganglia/thalamus	ntree: 500; mtry: 3
SVM for temporal lobe	Sigma: 0.7581687; C: 0.25
RF for parietal lobe	ntree: 500; mtry: 2
RF for frontal lobe	ntree: 500; mtry: 2

SVM, support vector machine; RF, random forest.

Table S5 Distributional differences of important variables between test set and training set for basal ganglia/thalamus

Variables	Test set (N=19)	Training set (N=79)	P value
Subjects			>0.99
Healthy controls	10 (52.6%)	41 (51.9%)	
Patients	9 (47.4%)	38 (48.1%)	
Large area emphasis	0.27 (1.05)	–0.06 (0.98)	0.225
High gray level zone emphasis	0.30 (0.95)	–0.07 (1.00)	0.148
Low gray level zone emphasis	–0.33 (0.88)	0.08 (1.02)	0.089

Data are shown as n (%) or mean (standard deviation).

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