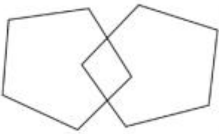
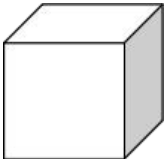



Supplementary Table 1. Graphic and Chinese character handwriting tasks

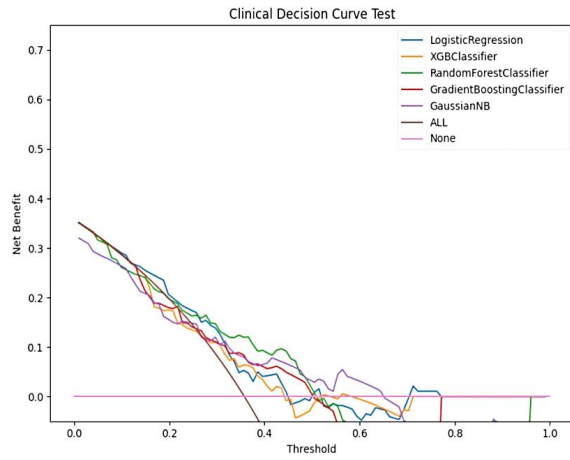
Writing task	Scoring standard
Task 1: Please draw the graph in the picture	1 point each for drawing five clear corners and sides, forming a quadrilateral at the intersection, and maintaining equal side lengths, totalling 3 points.
	
Task 2: Please draw the cube in the picture	1 point each for accurate three-dimensional depiction, correct cube orientation, precise internal lines, and parallel opposing sides, totalling 4 points.
	
Task 3: Please write your name	1 point for correctly writing one's name, totalling 1 point.
Task 4: Memorize three words dictated by the researcher and write down (大米, 儿子, 女儿) (Rice, son, daughter)	1 point for correctly writing one Chinese character, totalling 6 points.
Task 5: Describe each of the three images in one word	
	1 point for correctly naming one picture, totalling 3 points.
Task 6: Please copy this sentence	1 point for correctly writing one Chinese character, totalling 10 points.
开心每一秒, 快乐每一天。 Be happy every second, be happy every day.	

Supplementary Table 2. The gait kinematic parameters and their definitions

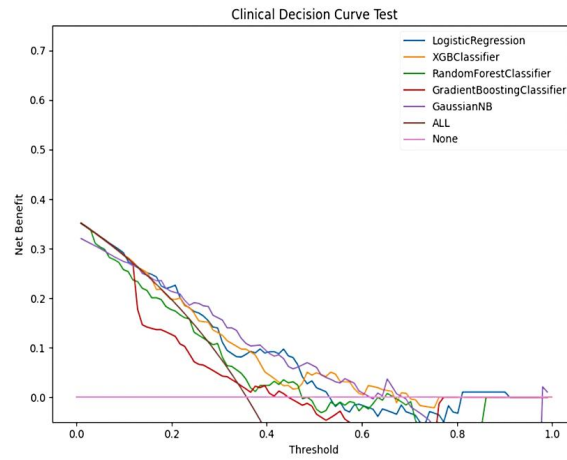
Parameters	Description
Ambulation time (s)	Ambulation time from the heel of the first and last footprints
Velocity (cm/s)	Velocity was obtained after dividing the recorded distance by the ambulation time
Cadence (step/ min)	Cadence was obtained after dividing the recorded step by the ambulation time
Step time (s)	Step time elapsed from the first contact of one foot to the first contact of the opposite foot
Step length (cm)	Step length is the distance from the heel of the current footprint to the heel of the opposite footprint
Cycle time (s)	Cycle time is the time between the heel points of two consecutive footprints from the same foot
Stride length (cm)	Stride length from the line of progression between the heel points of two consecutive footprints of the same foot
HH base support (cm)	HH base support was the horizontal distance from the heel point of one footfall to the line of progression of the opposite foot
Swing time (s)	Swing time between the last contact of the current footprint and the first contact of the next footprint of the same foot
Stance time (s)	Stance time was measured between the first and last contact of the same footprint
Double support time (s)	Double support time is the time the contralateral foot is in contact with the ground from the time the front foot follows the ground to the time the toes leave the ground
Stride length variability (SD)	Stride length variability is the standard deviation of the stride length
Swing time variability (SD)	Swing time variability is the standard deviation of the swing time
Double support time variability (SD)	Double support time variability is the standard deviation of the double support time

Supplementary Table 3. The handwriting kinematic parameters and their definitions

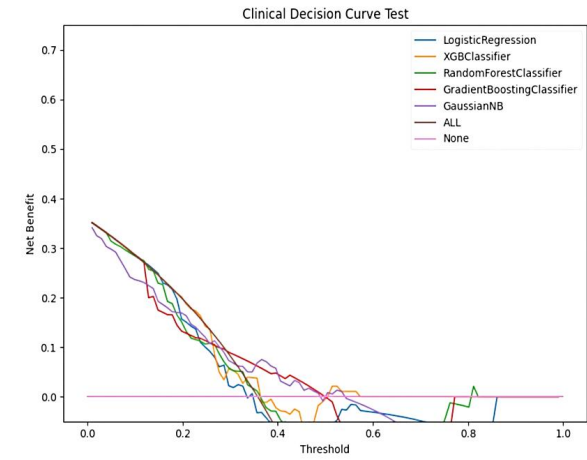
Parameters	Description
Tilt angle	The angle
Average	Average
Time in air	Pen
Single	Paper and
Single	Average
X-axis	Average
Y-axis	Average
Total single	Total value
Total x-axis	Total value
Total y-axis	Total value
Average	Average
Average	Average
Average	Average
Maximum	Average
Minimum	Average
Maximum	Average
Minimum	Average
Number of	Number of
Average	Average
Average	Average
Maximum	Average
Minimum	Average
Maximum	Average
Minimum	Average
Number of	Number of
Task score	Total scores



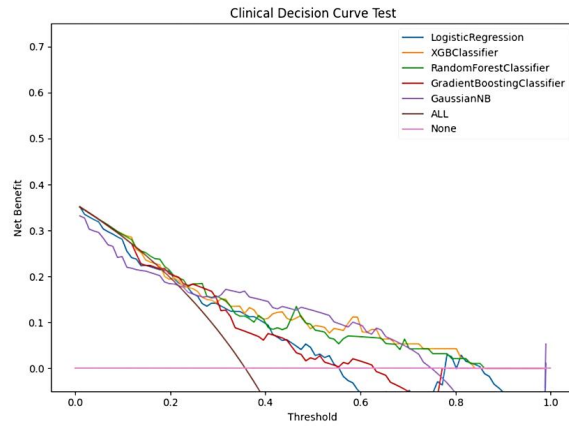
eFig. 1A. Gait tasks



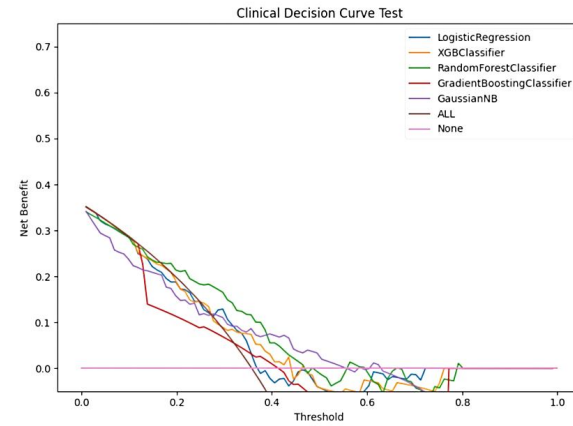
eFig. 1B. Graphics handwriting tasks



eFig. 1C. Chinese character handwriting tasks



eFig. 1D. Gait and Graphics handwriting tasks



eFig. 1E. Gait and Chinese character handwriting tasks

Supplementary Figure 1. DCA analysis for unimodal and multimodal classification in gait and handwriting tasks

智能MCI筛查

请注意：

1. 上传的 CSV 文件需同时包含步态与笔迹特征；
2. 文件中必须包含平台要求的核心特征列，否则将无法完成筛查。

请输入待测人员姓名：

笔迹+步态检测

选择文件 未选择文件

开始检测

查看历史记录

Supplementary Figure 2. MCI screener.