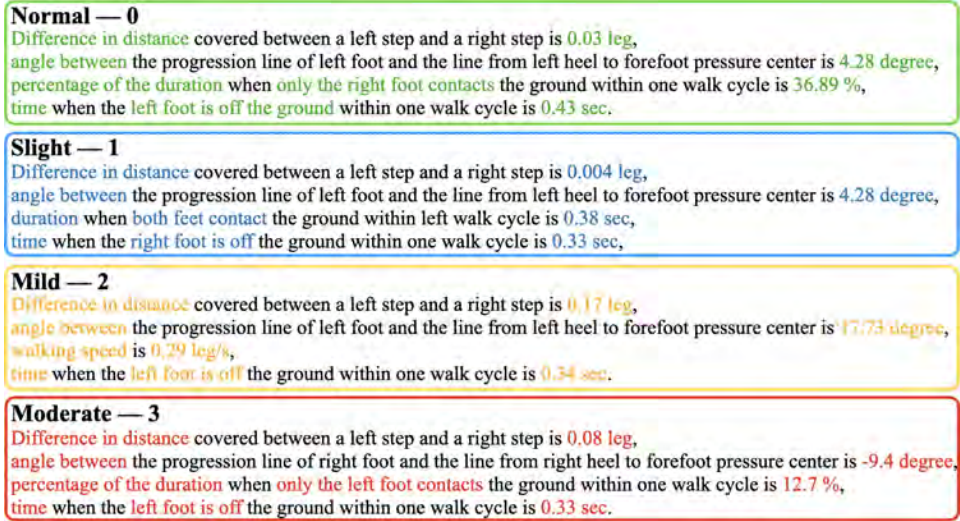


(a) Ours. (b) Position encoding. (c) Digits. (d) Number texts.

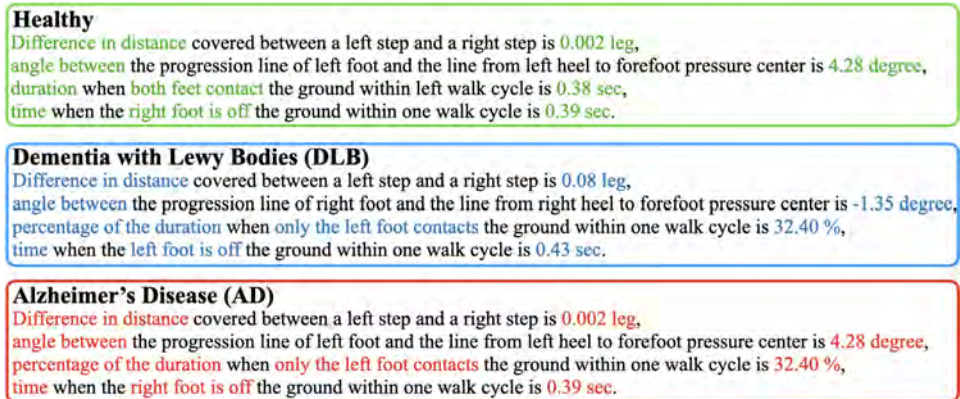
Fig. 1: Cosine similarity among numerical text embeddings, normalized to $[0, 1]$.

Table 1: Descriptions of 29 gait parameters used in our study.

| ID | Gait parameter description |
|----|---|
| 1 | Walking speed |
| 2 | Number of steps per minute |
| 3 | Difference in step duration between a left step and a right step |
| 4 | Difference in distance covered between a left step and a right step |
| 5 | Time difference between the left walk cycle and the right walk cycle |
| 6 | Time taken by the right step |
| 7 | Time taken by the left step |
| 8 | Distance covered by the right step |
| 9 | Distance covered by the left step |
| 10 | Time taken from the first contact of the left foot to the second contact of the left foot |
| 11 | Time taken from the first contact of the right foot to the second contact of the right foot |
| 12 | Distance covered by one left walk cycle |
| 13 | Distance covered by one right walk cycle |
| 14 | Vertical height covered from the heel point of left foot to the second contact of left foot |
| 15 | Vertical height covered from the heel point of right foot to the second contact of right foot |
| 16 | Percentage of the duration when the left foot is off the ground within one walk cycle |
| 17 | Percentage of the time when the right foot is off the ground within one walk cycle |
| 18 | Time when the left foot is off the ground within one walk cycle |
| 19 | Time when the right foot is off the ground within one walk cycle |
| 20 | Percentage of the duration when only the left foot contacts the ground within one walk cycle |
| 21 | Percentage of the duration when only the right foot contacts the ground within one walk cycle |
| 22 | Duration when only the left foot contacts the ground within one walk cycle |
| 23 | Duration when only the right foot contacts the ground within one walk cycle |
| 24 | Percentage of the duration when both feet contact the ground within left walk cycle |
| 25 | Percentage of the time when both feet contact the ground within right walk cycle |
| 26 | Duration when both feet contact the ground within left walk cycle |
| 27 | Duration when both feet contact the ground within right walk cycle |
| 28 | Angle between the progression line of left foot and the line from left heel to forefoot pressure center |
| 29 | Angle between the progression line of right foot and the line from right heel to forefoot pressure center |



(a) MDS-UPDRS gait scores.



(b) Diagnostic groups.

Fig. 2: Descriptions generated from per-class text features through the pretrained text decoder. Key criteria are highlighted in the respective class color.