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## Explainable Artificial Intelligence in Movement Sciences

Zheng, Xiaoping

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# Explainable Artificial Intelligence in Movement Sciences

Focusing on gait analysis in healthy older adults  
and patients with back pain

Xiaoping Zheng

The experiments described in Chapters 2 and 3 were conducted at the Medical Ethical Committee of the Slotervaart Hospital (closed in 2018), the Netherlands and the University Medical Center Groningen, Groningen, the Netherlands. The experiments described in Chapters 4, 5 and 6 were conducted at the University Medical Center Groningen.

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# Explainable Artificial Intelligence in Movement Sciences

Focusing on gait analysis in healthy older adults and patients with back  
 pain

**PhD thesis**

to obtain the degree of PhD at the  
 University of Groningen  
 on the authority of the  
 Rector Magnificus Prof. J.M.A. Scherpen  
 and in accordance with  
 the decision by the College of Deans.

This thesis will be defended in public on

Monday 29 April 2024 at 12.45 hours

by

**Xiaoping Zheng**

born on 8 April 1993

## **Supervisors**

Prof. C.J.C. Lamoth  
Prof. M.F. Reneman  
Prof. E. Otten

## **Assessment Committee**

Prof. N.M. Maurits  
Prof. J. van Dieen  
Prof. N. Strodthoff

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