

IDLab UGent – Phd position Markerless Motion Capture using Wearable Sensors

Job description

ABOUT GHENT UNIVERSITY

Ghent University is a world of its own. Employing more than 15.000 people, it is actively involved in education and research, management and administration, as well as technical and social service provision on a daily basis. It is one of the largest, most exciting employers in the area and offers great career opportunities.

With its 11 faculties and more than 85 departments offering state-of-the-art study programmes grounded in research in a wide range of academic fields, Ghent University is a logical choice for its staff and students.

For the faculty of Engineering and Architecture /department ELIS/ research group IDLab we are looking for a m/f/x

Doctoral fellow

YOUR JOB

We are launching a new interdisciplinary research project at IDLab-MEDIA (<https://media.idlab.ugent.be/>), UGent – imec, aimed at advancing the state of the art in motion capture, sensor fusion, immersive media, and 3D computer vision. Within this broader initiative, we are seeking two PhD researchers who will contribute to complementary aspects of the project. This position focuses on developing infrastructure-free, markerless motion capture systems using wearable sensors, exploring multimodal fusion, robust pose estimation, and real-time processing. The other position targets immersive media representation and 3D computer vision, investigating novel methods for photorealistic scene reconstruction and understanding. Together, these roles form a cohesive effort to bridge algorithmic innovation with practical applications in next-generation media technologies.

This research focuses on developing infrastructure-free, markerless motion capture systems using on-body sensors (e.g., cameras, IMUs, pressure sensors, UWB). You will explore:

- Multimodal sensor fusion for fine-grained motion tracking
- Robust pose estimation in unconstrained environments
- Real-time processing under resource constraints
- Learning representations that generalize across users and tasks

The goal is to enable unobtrusive and accurate motion understanding without reliance on external infrastructure or markers.

Apart from performing research, you will get the chance to

- advise and guide master's thesis students, contributing to their academic development while gaining valuable experience in supervision and mentorship,
- contribute to teaching activities by guiding assignment sessions in courses related to multimedia representation and computer graphics, helping students apply theoretical concepts in practical settings,

- follow doctoral training courses offered by Ghent University, allowing you to deepen your expertise, broaden your academic skills, and connect with fellow researchers across disciplines.

Job profile

- You hold a Master's degree (preferably) in Computer Science, Electrical Engineering, or a related field.
- You have a strong background or interest in one or more of the following areas: computer vision, machine learning, signal processing, and computer graphics.
- You have good programming skills (e.g., Python, C++, or similar) and are comfortable working with data and experimental setups.
- You are fluent in English, both written and spoken.
- You can show published work or are motivated to publish your work in top-tier conferences and journals.
- You are enthusiastic about conducting high-quality research and contributing to a collaborative, interdisciplinary project.
- You are willing to guide assignment sessions in courses on multimedia representation and computer graphics.
- You are open to advising and mentoring master's thesis students.
- You are eager to follow doctoral training courses offered by Ghent University to further develop your academic and professional skills.

WHAT WE CAN OFFER YOU

- We offer a full-time position as a doctoral fellow, consisting of an initial period of 12 months, which - after a positive evaluation, will be extended to a total maximum of 48 months.
- Your contract will start on Feb. 1st 2026 at the earliest.
- The fellowship amount is 100% of the net salary of an AAP member in equal family circumstances. The individual fellowship amount is determined by Team Personnel Administration based on family status and seniority. A grant that meets the conditions and criteria of the regulations for doctoral fellowships is considered free of personal income tax. [Click here for more information about our salary scales](#)
- All Ghent University staff members enjoy a number of benefits, such as a wide range of training and education opportunities, 36 days of holiday leave (on an annual basis for a full-time job) supplemented by annual fixed bridge days, bicycle allowance and eco vouchers. [Click here for a complete overview of all the staff benefits.](#)

How to apply

For more information about this vacancy, please contact Prof. Van Wallendael (glenn.vanwallendael@ugent.be).

You can apply until December 15, 2025 via [this form](#).

Please upload your CV, a copy of your diploma (if already in your possession) and a motivation letter.

We do not accept late applications.

<https://idlab.ugent.be>