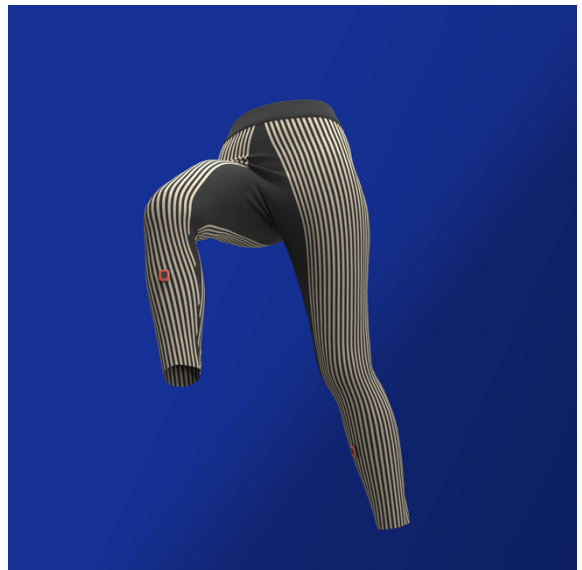


INTERNSHIP– Developing a smart running garment

Running, despite its health benefits, often leads to high injury rates. In the Netherlands alone, runners reported 660,000 injuries in 2022, comprising 13% of all sports-related injuries. To tackle this issue, we are developing a smart garment equipped with motion capture technology and personalized haptic feedback. This innovative project is a collaboration between Movella's motion capture technology and Saxion's expertise in e-textiles and user-centered design. Our goal is to create a prototype that enhances running performance and minimizes injury risk through effective feedback mechanisms.

TASK DESCRIPTION

We are looking for passionate, creative, and motivated students to join our team. You will build on the work of three talented students who have laid the foundation for the sensing and actuating components of the system. To continue their work, **you are free to decide on your own topic or study one or more of the following topics:**



- Develop meaningful haptic patterns (consider body placement, vibration intensity, fading etc)
- Continue on developed PCB designs for the placement of the microcontroller, battery etc, on the smart garment
- Develop and test conductive knitted samples for placing the vibration motors on the garment by using one of our knitting machines.
- Design and develop the final demonstrator
- Comprehensive user testing with the final demonstrator
- Design a (concept) application for the runner including setting up the system, retrospective data visualization etc. This can be a concept app or a fully working prototype.

PRACTICAL INFORMATION

- **Student profile:** Bachelor/ master student in computer science, embedded systems, fashion & textile technology, mechanical engineering, creative technology, interaction technology, electrical engineering or equivalent. Both tasks require collaboration with experts in fashion technology, smart textiles, human movement science and user-centered design. We are looking for a student that can connect different fields of expertise, who is hands on in his/her approach. You will mainly work independently, but you are pro-active in including relevant partners in your research.
- We offer an internship fee and the possibility to tailor your own assignment. If preferred, a combination of both topics can be discussed. This opportunity may involve an internship or a graduation assignment. You are free to work from home or at the office.
- By contributing to the development of this smart garment, you will be at the forefront of innovation in sports and health technology, potentially impacting the running experience for athletes and enthusiasts alike. If you are passionate about pushing the boundaries of wearable technology and creating tangible solutions to improve performance and comfort, we invite you to join us!
- **Contact person** for this assignment: Melissa van Schaik/ m.e.vanschaik@saxion.nl+31616007678
- Research group Sustainable and Functional Textiles: saxion.nl/sft