

Assessing movement trajectories in immersive VR threat scenarios

2020-09/Area: experimental psychology/computational neuroscience/kinematics

Background

Threat-related behaviour in humans is mainly investigated in impoverished computer game settings, sometimes including virtual reality, but without actual movements. This restricts the set of cognitive or neural mechanisms that can be investigated ¹.

In this ERC-funded project, we develop an immersive virtual reality platform. You will contribute by utilising an existing motion capture system at the Whole Body Sensorimotor Lab, adding video capture, and annotating recorded movement trajectories. Depending on skills and interest, there is the possibility to implement and use deep-learning based structuring of video capture data using DeepLabCut ².

What you can learn

- Motion capture
- Deep-learning analysis of video capture (DeepLabCut)

Your profile

(1) Your background is in psychology, neuroscience, biology, or related fields, and you want to acquire data analysis skills.

(2) You have a background in any engineering or science field, and a strong interest in biological questions.

Supervision

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Literature

1. Bach, D.R. & Dayan, P. Algorithms for survival: a comparative perspective on emotions. *Nat Rev Neurosci* **18**, 311-319 (2017).
2. Mathis, A., *et al.* DeepLabCut: markerless pose estimation of user-defined body parts with deep learning. *Nat Neurosci* **21**, 1281-1289 (2018).