Tel-Aviv University offers a funded full-time PhD position on "Accelerating motor learning with computational scaffolding" starting in the summer

The last few years have seen an amazing explosion in artificial intelligence and machine learning - helping machines learn to perform tasks better. In this project, we will use similar techniques to optimize the human learning experience in learning complex motor behaviour.

Your tasks

We will tackle the problem of learning complex motor tasks using a technique known as computational scaffolding. You will play a central role in both designing, setting up, running and analyzing the behavioural experiments with human participants, as well as working on the machine learning algorithms to perform the guidance, based on recordings from experts teaching novices. The techniques developed in this project will eventually allow enhanced remote tele-operation for learning new skills and rehabilitation in different populations.

The experiments will involve motion capture, recording performance from an electric piano and use of an exoskeleton for guidance. You will be supervised by Dr. Jason Friedman, from the Dept. Physical Therapy & Sagol School of Neuroscience, and the project will be performed collaboratively with the group of Prof. Dr. Helge Ritter, from the NeuroInformatics group at Bielefeld University in Germany.

Your profile

We expect:
- M.Sc or equivalent in Computer Science, Biomedical engineering, Physical Therapy, Neuroscience, Psychology, Physics, Motor Control, or related areas
- Knowledge and experience in machine learning and artificial intelligence
- Excellent programming skills
- Very good English (written and spoken)
- Independent, self-reliant and dedicated style of work
- Strong organizational and communication skills
- Ability to cooperate and to work in a team
- A background in music is an advantage

The successful applicant will apply to be a PhD student in the Faculty of Medicine or the Sagol School of Neuroscience. The research will primarily take place on the campus of Tel Aviv University in Tel Aviv, Israel. Tel Aviv University, with over 30,000 students, is the largest university in Israel, with a vibrant research community. The student will receive a stipend at the standard Tel Aviv University rate.

Application Procedure

- Send the following by email to Dr. Jason Friedman (jason@tau.ac.il):
    - A CV
    - A transcript of your grades from your M.Sc studies
    - A cover letter describing how you meet the profile and why you are interested in the position
    - Names, affiliations, and email address of two academic references
- Shortlisted applicants will be contacted for an online video interview

Recruitment will take place immediately until a suitable applicant is found