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Marie Skłodowska-Curie Actions

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Postdoctoral Fellowships



CALL FOR APPLICATIONS 2025 – FELLOWS

Supervisor	Ignacio Avellino
Supervisor page	https://www.isir.upmc.fr/personnel/avellino/?lang=en
Host Institution	Sorbonne Université https://www.sorbonne-universite.fr/en
Research Lab	Institute of Intelligent Systems and Robotics https://www.isir.upmc.fr/?lang=en
Research Team	Robotics, Perception and Interaction for Biomedical applications https://www.isir.upmc.fr/teams/rpi-bio/?lang=en

Project Title

Touching with the eye: visual haptics for robotic-assisted surgery.

Project Description

Robotic-assisted surgery has revolutionised care, yet it has changed how surgeons operate as surgeons are deprived from a key perceptual sense: haptics. Current approaches based on sensing and actuating have had limited success. We propose a human-centered approach that estimates the applied force using machine learning on video data of tissue manipulation and deformation. We will study how a visual approach supports surgeons in adhering to respect of tissue, a key technical skill for safety.

Keywords

HCI, robotic-assisted surgery , haptics

Description of the Host Research Lab

The advent of artificial intelligences and robots is inducing profound transformations in our societies. Isir researchers help to anticipate them by working on the autonomy of machines and their ability to interact with human beings. Gathered in multidisciplinary teams, they create drones, micro-tweezers, bionic prostheses, social robots, surgical arms and all kinds of intelligent and interactive systems, physical, virtual or mixed reality. Their applications address major societal challenges: health, industry of the future, transport, personal services.

To submit your application, please send an email with the required documents to
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