Daniel Naftalovich

Daniel Naftalovich is a PhD student at the **California Institute of Technology, Pasadena** and also a medical student at the **Keck School of Medicine of the University of Southern California (USC)**. He spoke to us ahead of his poster session at **CARS 2017**.

"I just submitted to the CRAS meeting that will be in September"

Daniel's work is on the use of algorithms for skill assessment, particularly in robotic supply to microsurgery. The work he is presenting today is about a dataset they collected regarding this kind of work. Microsurgery is used as an example dexterous task in order to study skill, skill acquisition and learning curve in this setting, with kinematic and motion data that they recorded and video. They used the da Vinci Research Kit. Unlike previous datasets in this, they did a single user, but many trials in one user and quite substantial trials in each experiment. He made a very long process of training himself in doing a microvascular anastomosis procedure with the robotic assistance in the da Vinci Research Kit, tracking it the whole time both in the video and the kinematic data. The idea is that this can be a useful set of data to experiment with algorithms for skill assessment, and can also become about skill tracking, to track progression along a learning curve.

Daniel in da Vinci console during robotic-assisted microsurgery training

"I was using a non-animal phantom model in the laboratory"

Daniel told us how he thought he fared as a surgeon:

"How did I do? I think I did okay. I definitely started out not okay, and towards the end it got more okay. The question can be answered in many ways. One important thing to mention is that I was using a non-animal phantom model in the laboratory, so that of course, while it's very useful, also has its limitations. To really say, we'll see one day if I continue on to a surgical residency - we'll see for real. But actually, also recently, I did a training course in microsurgery, that I performed