Daniel Naftalovich



CARS

the robot to reduce the vibrations that they were getting in the research kit. In the clinical mode, the use of microsurgery was already demonstrated more substantially.

He also mentioned the intention of capturing a learning curve process, which is distinct from some of the previous work that used a static snapshot of skills, and the way they distinguish skills by using different people who at a given instant of time have different skills. Here, the approach was very different, it's taking a single person with a dynamic skill, that's changing and increasing through training, and capturing that whole learning curve. That's one additional way it's new.

Another novelty is in the type of data analysis that this dataset supports, he thinks this can move them closer to a regression setting. A lot of the previous work has been doing a skill classification, in two or three classes - so either expert, or maybe beginner, intermediate and expert - and that has some utility, but a nice continuation is to get more of a quantitative type of metric, that can be used for evaluating and tracking skill. This also goes in synergy that when you



External view of the surgical field during Daniel's experiment of performing micro-vascular end-to-end anastomosis using the Konnyaku/Shirataki phantom model at the ALTAIR laboratory in the University of Verona, using the da Vinci Research Kit (DVRK).