



Dr. Nassir Navab - Technical University of Munich and Johns Hopkins University

Bio:

Nassir Navab is a full Professor and Director of the Laboratory for Computer Aided Medical Procedures, Technical University of Munich and Johns Hopkins University. He also has secondary faculty appointments at both affiliated Medical Schools. He completed his PhD at INRIA and University of Paris XI, France, and enjoyed two years of a post-doctoral fellowship at MIT Media Laboratory before joining Siemens Corporate Research (SCR) in 1994. At SCR, he was a distinguished member and received the Siemens Inventor of the Year Award in 2001. He received the SMIT Society Technology award in 2010 and the ‘10 years lasting impact award’ of IEEE ISMAR in 2015. In 2012, he was elected as a Fellow of the MICCAI Society. He has acted as a member of the board of directors of the MICCAI Society, 2007-2012 and 2014-2017, and serves on the Steering committee of the IEEE Symposium on Mixed and Augmented Reality (ISMAR) and Information Processing in Computer Assisted Interventions (IPACI). He is the author of hundreds of peer reviewed scientific papers, with more than 24700 citations and an h-index of 77 as of April 2019, He is author of more than thirty awarded papers including 10 at MICCAI and three at IEEE ISMAR. He is the inventor of 47 granted US. patents and more than 50 International ones. His current research interests include multimodal imaging, augmented reality in medical education and training, computer-aided surgery, medical robotics, and machine learning.

Grand Rounds Talk (Wednesday April 19th, 7am-8am Etherington Auditorium)

“Robotic Imaging, Machine Learning and Augmented Reality for Computer Assisted Interventions Technical University of Munich and Johns Hopkins University”

Abstract:

In this talk, I will present an overview of our most recent advancements in Robotic Imaging, Machine Learning and Medical Augmented Reality. I will first discuss the particular requirements for intra-operative imaging and visualization. I will then present some of our latest results in intra-operative multimodal robotic imaging and its translation to clinical applications. I will then discuss the impact of research advancement in machine learning on medical imaging and computer-assisted intervention. I will finally present some applications of virtual and augmented reality in the medical domain. Starting by the current deployment of AR and VR technology within medical education, I discuss its current and future impact on surgical education and training. I will then review the first deployment of augmented reality into operating rooms in the last two decades and present some of our latest achievements in this field.

Bruce Public Lecture (Wednesday April 19th, 4pm-5pm Britton Smith Lecture Theater)

“What you get is what you don’t see: Advances in Augmented Reality ”

Amazing New Technologies that will Transform Healthcare.

Abstract:

As humans, we rely on our senses to perceive and interact with the world around us. In this lecture, Dr, Navab will explain Artificial Intelligence (AI), which is essentially computers automatically analysing information and helping to make decisions based on the questions being asked. He will also discuss a new technology called Augmented Reality (AR). It’s already being used to help kids learn. Now imagine a doctor having a variety of images of say your brain, and the device puts it all together and lets the doctor see what’s going on in a unique way. Then, AI starts to work and come up with ideas of what’s going on in the brain or any other tissue in the body and what best approaches to treatment could be considered.

Combined with AI, the Doctor will have new ideas and a better understanding of how to best approach the patient's needs. The outcome for the patient will be faster, more accurate diagnosis and treatment. This unique device helps you and your Doctor in better understanding your problems and coming up with personalized solutions that meet your needs.

It might all sound very technical, but that's why listening to an expert like Dr. Navab will leave you excited about where these technologies can take us. Plus, you'll never get a better chance to ask the expert.