Seminar by Orçun Göksel from Computer Vision Lab – ETH Zürich

Place: Room ITC 2115, Dept. of Information Technology, Uppsala University
Date: Monday June 13, 2016
Time: 15:15

Registration: The Swiss-Army Knife of Medical Image Analysis?

Abstract: Although a well-studied topic, deformable image registration is still far from being a solved problem, and it is arguably not yet fully exploited in many clinical contexts. This talk will explore the utilization of registration in different contexts such as for weak-supervision of segmentation, in the form of anatomical priors as well as population models. These models will be shown to be profitable for image datasets even with a lack of annotations, which is an outstanding problem of the upcoming "Big Data" revolution. Other major challenges of registration include: complex parametrization of available methods, a lack of error estimates and confidence bounds, and correct treatment of sliding interfaces such as in the abdomen. Our effective solutions to these challenges will also be presented herein. Brief example applications of ultrasound mosaicking and real-time tracking will conclude this presentation.

Biography: Dr Göksel received two BSc degrees in electrical engineering (2001) and in computer science (2002) from Middle East Technical University, Ankara, Turkey. He received his MASc (2004) and PhD (2009) degrees in electrical and computer engineering at the University of British Columbia, Vancouver, Canada. Following postdoc and senior scientist positions, since 2014 he is an assistant professor at ETH Zurich, Switzerland. Dr. Göksel has received the ETH Spark Award 2016, the CTI Swiss MedTech Award 2014, and the Innovation in Technology (best dissertation) Award of the north-american Western Association of Graduate Schools in 2011. His research interests include medical image analysis, image-guided therapy, patient-specific modelling, virtual-reality simulation, ultrasound imaging, and tissue biomechanical characterization.

Dr Göksel is Head of the Computer-assisted Applications in Medicine Group, see http://www.vision.ee.ethz.ch/~caim/
If you wish to meet with our visitor during his visit on June 13-14, please, contact us.

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