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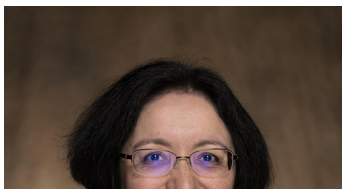

Moderated by Dr. Julia Upton, Assoc. Prof. of Mathematics, Husson University
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Deep Learning for Medical Image Analysis

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Abstract Automated imaging systems are becoming important tools for medicine and biology research as they facilitate rapid analyses with better reproducibility. Segmenting regions of interest on a medical image is typically the first but one of the foremost steps of these systems, which greatly affects the success of the entire analysis. In this talk, I will briefly mention the main challenges associated with segmentation tasks in medical image analysis, and then present examples of the dense prediction networks that my research group designed and implemented to address these challenges. Particularly, I will talk about our proposed network architectures and loss functions that were specifically designed to facilitate better training of the segmentation networks. At the end, I will discuss future research possibilities towards the direction of developing more robust segmentation networks for medical image analysis.

Short Bio Cigdem Gunduz Demir received her B.S. and M.S. degrees in computer engineering from Bogazici University in 1999 and 2001, respectively, and her Ph.D. degree in computer science from Rensselaer Polytechnic Institute in 2005. She is currently a Professor of Computer Engineering and the Deputy Director of the Center of Artificial Intelligence at Koc University. Before joining Koc University, she was working as a faculty member at the Computer Engineering Department at Bilkent University. She was a visiting professor at Nanyang Technological University NTU, Singapore, in Fall 2009, and Stanford University in Spring 2013. Her main research interests and projects include development of new computational methods based on deep learning and computer vision for medical image analysis.