



دانشگاه صنعتی شریف

دانشکده مهندسی برق

وبینار علمی با موضوع :

Towards Anatomically Plausible Medical Image Segmentation: from Dense Labels to Graph Structures

سخنران :

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زمان : سه شنبه 1400/8/11 – ساعت 17 الی 18:30

آدرس لینک وبینار: <https://vc.sharif.edu/ch/ee-webinar2>

Abstract : We will discuss some of our recent works on representation learning to improve anatomical plausibility in biomedical image segmentation. We will see how autoencoders can be used to learn low-dimensional embeddings of anatomical structures and propose different ways in which these embeddings can be incorporated into deep learning models for segmentation and registration. The idea is to constraint the space of solutions and encourage anatomical plausibility in the model output. We will also briefly comment on other research lines from our lab related to domain generalization, model calibration, and fairness in biomedical image computing.

About Speaker: **Dr. Ferrante** received his Systems Engineering degree from UNICEN University (Argentina), completed his PhD in Computer Sciences at Université Paris-Saclay and **INRIA in Paris**, France, and worked as a postdoctoral researcher at **Imperial College London** in the UK. He has also been a visiting student at the CVGL Lab in **Stanford University** (2014) and Fulbright Visiting Researcher at the A. Martinos Center for Biomedical Imaging (**Massachusetts General Hospital - Harvard Medical School**, 2021) in Boston. He returned to Argentina in 2017, where he holds a faculty researcher position from Argentina's National Research Council (CONICET). He leads the Machine Learning for Biomedical Image Computing research line in the Research Institute for Signals, Systems and Computational Intelligence. In 2020 Dr. Ferrante received the Young Researcher Award from the National Academy of Sciences of Argentina, and the Mercosur Science & Technology Award for his scientific contributions in the area of AI for medical image computing. His research interests span both artificial intelligence and biomedical image analysis, with focus on deep learning methods.