

13<sup>th</sup> International Conference on

# Laboratory Medicine & Pathology

June 25-26, 2018 | Berlin, Germany

## Glioma Tumor Segmentation Using Deep Cascaded – 3D Convolutional Neural Networks

Wiem Takrouni and Ali Douik  
University of Sousse, Tunisia

Glioma is a brain tumor, mainly dangerous form of cancer which starts in the gluey supportive cells (glial cells) that encircle nerve cells and help them function. Glioma tumor brain structure segmentation in non-invasive magnetic resonance images (MRI) has enticed the interest of the research community for a long time because of morphological changes in these structures. In this poster, we propose a deep cascaded 3D convolutional neural network (DC-3DCNN) based method to segment glioma lesions from multi-contrast MR images. DC-3DCNN was evaluated on a challenge dataset, where the performance of our method is also compared with different current publicly available state-of-the-art lesion segmentation methods.

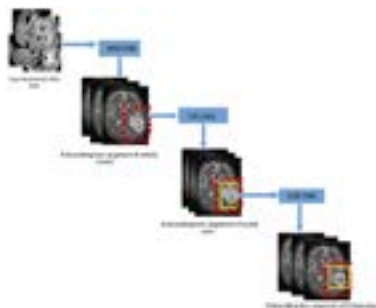


Figure1: Proposed Method

	Dice	Dice	Dice	Hausdorff (mm)	Hausdorff (mm)	Hausdorff (mm)
	ET	WT	TC	ET	WT	TC
Mean	0.888	0.897	0.697	10.256	2.468	22.648
Standard deviation	0.121	0.123	0.142	52.364	16.156	54.324
Median	0.987	0.970	0.913	1.645	2.256	2.456

Table1: Dice and Hausdorff measurements of the DC-3DCNN method on BraTS 2017 denote enhancing tumor core, whole tumor and tumor core, respectively

### Biography

I'm Wiem Takrouni from Tunisia, I'm a Phd Student in computer vision and Medical imaging in the (NOCCS Laboratory, National School of Engineering of Sousse, University of Sousse, Tunisia). I have three publications paper conferences: two publications in smart vehicle with deep learning and a publication in tumor reconstruction in medical imaging.

Suhi14@yahoo.com  
takrouni.wiem@gmail.com

### Notes: