

Riccardo De Feo | CV

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in riccardo-de-feo-0b238213a

Experience

Centro Fermi

Rome

Research fellowship

October 2018–December 2019

Development of segmentation and multi-parametric analysis methods of rodent MRI images for the quantification of microstructural parameters, as part of the H2020 project T-MENS

International secondment

Kuopio

Charles River, Centro Fermi

January 2019–November 2019

Automated segmentation of mouse brain MRI with deep learning algorithms, scientific supervisor: professor Jussi Tohka

PhD Program

Rome

PhD course in Morphogenesis and Tissue Engineering, La Sapienza

November 2018–Ongoing

Deep Learning methods in MRI, under the tutoring of professor Federico Giove

Institute for Complex Systems (ISC)

Rome

In vivo MRS, Sapienza University

July 2018–September 2018

Metabolite quantification with in vivo magnetic resonance spectroscopy data (MRS) as part of a study on Huntington's disease.

Study of Deep Learning models

Rome

January 2018–April 2018

Based on Prof. Andrew Ng's coursera specialization in Deep Learning, while also attending Prof. Giagu's course on machine learning at La Sapienza, applying CNN models to the classification of Diffusion MRI data, implemented in python3 with the Keras framework.

Institute for Complex Systems (ISC)

Rome

Post-graduate Internship, Sapienza University

April 2017–December 2017

Pre- and post processing of human brain NMR images acquired with diffusion MRI protocols.

Publications

Valverde, J. M., Shatillo, A., De Feo, R., Gröhn, O., Sierra, A., & Tohka, J. (2019). Automatic Rodent Brain MRI Lesion Segmentation with Fully Convolutional Networks. arXiv preprint arXiv:1908.08746.

De Feo, R., & Giove, F. (2019). Towards an efficient segmentation of small rodents brain: a short critical review. *Journal of neuroscience methods*.

Di Trani, M. G., Nezzo, M., Caporale, A. S., De Feo, R., Miano, R., Mauriello, A., ... & Capuani, S. (2018). Performance of Diffusion Kurtosis Imaging Versus Diffusion Tensor Imaging in Discriminating Between Benign Tissue, Low and High Gleason Grade Prostate Cancer. *Academic radiology*.

Posters

De Feo, R., Valverde, J. M., Sierra, A., Shantilo, A., Grohn, O., Tohka, J. (2019). Deep Learning for skull stripping and mouse brain segmentation: dataset size and architectural effects. DPMM Winter school, University of Eastern Finland, Kuopio.

Courses and certificates

Python in high performance computing: PRACE FutureLearn class, verify at futurelearn.com/certificates/4m8kqni

Deep Learning Specialization: DeepLearning.AI Coursera specialization, verify at coursera.org/verify/specialization/UDHX8Z4S2Z89

Education

University of Rome La Sapienza

Master degree in Physics , 110/110 cum laude

Master Thesis:

Study of the aging brain by means of NMR techniques of Kurtosis Tensor Imaging

Supervisor: Silvia Capuani

Rome

2014–2017

University of L'Aquila

Bachelor degree in Physics , 107/110

Bachelor thesis:

Lotka-Volterra equations: the predator-prey problem applied to cloud physics

Supervisors: Piero Di Carlo, Guido Visconti

L'Aquila

2008–2014

Pre-university studies

Secondary school diploma: Industrial technical certificate (Environmental Chemistry)

Languages

English: IELTS score 8.0 (C1), Academic module

Italian: Native language

Computer skills

Operating Systems: Linux (Ubuntu, Mint), Windows

Software packages: MATLAB, FSL, Keras, Tensorflow, PyTorch, SPSS, ABBYY Finereader (OCR), LibreOffice, GIMP, NWN Aurora Engine (Scripting), Lyx

Programming languages: MATLAB, python, bash, basic knowledge of C
