

Trento (Italy), September 24th 2013

CURRICULUM VITAE ET STUDIORUM **DANILO BENOZZO**

Personal Data

Name: Danilo Benozzo
Data of birth: September 27th 1987
Place of birth: Castelfranco Veneto (TV), Italy
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Field of Specialization: Neuroinformatics, Bioengineering

Language Skills

- Italian: native speaker
- English: B2
- French: A2

Technical Skills

- Informatics:
 - Operative system: Windows, Unix
 - Software packages: Office
 - Programming languages: MatLab, Python, Java, C++ (basis), Latex (basis), shell scripts (basis)
- Technical:
 - Magnetoencephalography (MEG) data analysis
 - Deconvolution
 - Basis of cluster analysis
 - Cerebral perfusion estimation (DSC-MRI)
 - Basis of linear and non-linear estimation
 - Machine Learning
 - Brain decoding
 - Functional connectivity measures

- Relational model

Current Position

Computer Science PhD student, ICT Doctoral School, University of Trento - Italy

Education

2012 – Master's degree in Bioengineering at the University of Padova with thesis “*Deconvolution algorithm optimization in DSC-MRI*”. Supervisor: Alessandra Bertoldo, PhD. Co-supervisor: Denis Peruzzo, PhD – Marco Castellaro, PhD student.

2009 – Bachelor's degree in Biomedical Engineering at the University of Padova with thesis “*Automatic lesion segmentation in retinal images*”. Supervisor: Enrico Grisan, PhD.

Thesis Award

2012 – Thesis Award “GNB” (National Group of Bioengineering), Bressanone (BZ), Italy

Conferences and Schools

2010 – 2nd National Bioengineering Meeting, Torino (TO), Italy.

2012 – Autumn School “*Structure the Brain*”, MEG Center, University of Tübingen, Germany.

2012 – *FieldTrip Workshop*, CIMEC University of Trento, Italy.

2013 – *Workshop on Concepts, Actions and Objects: Functional and Neural Perspectives (CAOs)*, CIMEC, University of Trento, Italy.

2013 – *Disentangling the brainweb: a perspective from magnetoencephalography*, CIMEC, University of Trento, Italy.

2013 – Summer school “*Advanced Topics in Machine Learning*”, DTU Compute, Cognitive System (Denmark)

Abstract Publications

1. Benozzo D., Peruzzo D., Castellaro M., Pillonetto G. and Bertoldo A. “*Optimized Non-linear Stochastic Regularization for DSC-MRI*”. Presented at the ESMRMB 29th Annual Scientific Meeting. Lisbon, Portugal, 4-6 October 2012.
2. Peruzzo D., Benozzo D., Pillonetto G. and Bertoldo A. “*Fast NSR: an optimized Non-linear Stochastic deconvolution for large data set and clinical analyses*”. Presented at the ISMRM 21st Scientific Meeting and Exhibition. Utah, USA, 20-26 April 2013.
3. Benozzo D., Ellero M., Mastafa Kia S., Hartmann T. and Olivetti E. “*The Kernel Two-Sample Test vs. Brain Decoding*”. Presented at the workshop on Concepts, Actions and Objects: Functional and Neural Perspectives (CAOs), University of Trento, Italy, 23-26 May 2013.

Paper Publications

1. Olivetti E., Benozzo D., Mostafa Kia S., Ellero M. and Hartmann T. “*The Kernel Two-Sample Test vs. Brain Decoding*”. 2013 3rd International Workshop on Pattern Recognition in Neuroimaging.

Research Activities

The two main fields in which Danilo Benozzo has focused his research activities are the following.

1. Quantitative estimation of cerebral perfusion parameters in Dynamic Susceptibility Contrast – MRI needs to adopt deconvolution methods. Gold standard techniques that implement deconvolution are characterized by some issues. A new approach to compute deconvolution was studied, it is called Non-linear Stochastic Regularization (NSR). Previous works have proved that NSR provides better results than gold standard methods but it is unstable and more time consuming. So the aim was to make available this new algorithm increasing its robustness and reducing its computational times. (Subject of the master thesis)
2. Machine learning applied to neuroscience. The application of machine learning methods looks promising in the neuroimaging analysis and, for instance, it is the case of brain decoding. Brain decoding aims to establish a link between the brain activity and the external stimuli that caused it. In this project the used data are acquired with magnetoencephalography (MEG), it is a technique to measure the brain magnetic fields generated by neural process. (Current topic)

Sincerely
Danilo Benozzo