



# DLMIA

1st Workshop on Deep Learning in Medical Image Analysis

## Call for Papers

### Overview

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Deep learning has produced promising results outperforming some state-of-the-art approaches for a couple of problems, such as face detection and recognition, speech recognition and image classification. It is expected that these algorithms can have a large impact on medical image analysis applications, such as computer-aided diagnosis, image segmentation, image annotation and retrieval, image registration and multimodal image analysis. However, only a few works have used deep learning methods in the context of medical-oriented applications, such as breast cancer and skin lesion detection, organs recognition and image-based disease identification.

Additionally, there is a little effort on model selection of deep learning techniques, which poses an interesting problem, since we may face hundreds of parameters, being a near-exhaustive search on this high-dimensional search space impractical. The problem gets worse in large image-based datasets, which have been commonly used in several recent papers. Given the large amount of parameters, some authors have argued that a random search may perform satisfactory well for some applications. However, a hand tuning of the parameters may limit our understanding about how well the techniques can generalize and describe data.

Deep Learning in Medical Image Analysis (DLMIA 2015) is the first workshop in conjunction with [MICCAI 2015](#) that aims at fostering the area of computer-aided medical diagnosis, as well as meta-heuristic-based model selection concerning deep learning techniques.

### Topics

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- Image description by means of deep learning techniques;
- Medical imaging-based diagnosis using deep learning;
- Medical signal-based diagnosis using deep learning;
- Medical image reconstruction using deep learning;
- Deep learning model selection;
- Meta-heuristic techniques for fine-tuning parameter in deep learning-based architectures;
- Deep learning-oriented applications.

### Important Dates

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- **Full Paper Submission:** ~~June 8th, 2015~~ **EXTENDED TO JUNE 15<sup>TH</sup>, 2015**
- **Notification of Acceptance:** July 19th, 2015
- **Camera-ready Version:** July 26th, 2015
- **Conference Date:** October 9th, 2015

### Invited Speaker

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- **Juergen Schmidhuber, IDSIA, Switzerland**

### Website

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- <http://cs.adelaide.edu.au/~dlmia/alpha/index.html>

### Organization

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Gustavo Carneiro, University of Adelaide, Australia  
João Manuel R. S. Tavares, Universidade do Porto, Portugal  
Andrew P. Bradley, University of Queensland, Australia  
João Paulo Papa, Universidade Estadual Paulista, Brazil  
Jacinto C. Nascimento, Instituto Superior Tecnico, Portugal  
Jaime S. Cardoso, Universidade do Porto, Portugal  
Zhi Lu, University of Adelaide, Australia  
Vasileios Belagiannis, Technical University of Munich, Germany