

CURRICULUM VITAE

Hongwei LI

Date of Birth: 26/02/1993 **Gender:** Male **Hometown:** Guangdong Province, China
Email: hongwei.li@tum.de **Website:** <http://campar.in.tum.de/Main/HongweiLi>

Current Research Interests

Machine Learning

- ✧ Weakly-supervised learning and multi-view learning
- ✧ Deep learning and its application

Medical Image Analysis

- ✧ Segmentation of abnormality (e.g. tumor, WMHs, MS lesions) in MR images.
- ✧ Medical image classification (e.g. pancreas cysts, HEP-2 cells classification)
- ✧ Radiomics for mutation status prediction of brain tumor

Education

- ✧ 09. 2017 – present, Ph.D. student in Department of Computer Science, Technical University of Munich, supervised by [Prof. Bjoern Menze](#).
- ✧ 01. 2017 – 08. 2017, research visitor in University of Dundee (UK), supervised by [Prof. Jianguo Zhang](#).
- ✧ June 2014 – July 2017, M.Sc. in School of Data and Computer Science, Sun Yat-sen University (China). Supervised by [Prof. Jianguo Zhang](#) and [Prof. Wei-Shi Zheng](#).

Awards / Honors

- ✧ **Winner** of MICCAI White Matter Hyperintensities Segmentation Challenge 2017 (Quebec, Canada)
- ✧ PhD Fellowship from China Scholarship Council, 2017
- ✧ Overseas Research Fellowship from China Scholarship Council, 2016
- ✧ Best Poster Award on Chinese Conference on Biometric Recognition, 2015

Journal Publications:

- ✧ **H. Li**, G. Jiang, R. Wang, J. Zhang, W. Zheng and B. Menze, “Fully Convolutional Networks Ensembles for White Matter Hyperintensities in MR Image”, **NeuroImage**, 2018.
- ✧ Y. Zhao, **H. Li**, S. Wan, A. Sekuboyina, X. Hu, G. Tetteh, M. Piraud and B. Menze, “Knowledge-aided Convolutional Neural Network for Small Organ Segmentation”, IEEE Transactions on Biomedical and Health Informatics, 2019.
- ✧ L. Xu, G. Tetteh, J. Lipkova, Y. Zhao, **H. Li**, P. Christ, M. Piraud, A. Buck, K. Shi, B. H Menze, “Automated Whole-Body Bone Lesion Detection for Multiple Myeloma on 68Ga-Pentixafor PET/CT Imaging Using Deep Learning Methods”, Contrast Media & Molecular Imaging, 2018.

Peer-Reviewed Conference Publications:

- ✧ **H. Li**, J. Zhang, M. Muehlau, J. Kirschke and B. Menze, “Multi-Scale Convolutional-Stack Aggregation for Robust White Matter Hyperintensities Segmentation”, Proceedings of MICCAI BrainLes workshop, 2018.
- ✧ **H. Li**, A. Zhygallo and B. Menze, “Automatic Brain Structures Segmentation Using Deep Residual Dilated U-Net”, Proceedings of MICCAI BrainLes workshop, 2018.
- ✧ X. Hu, **H. Li**, Y. Zhao, C. Dong, B. Menze and M. Piraud, “Hierarchical multi-class segmentation of glioma images using networks with multi-level activation function”, Proceedings of MICCAI BrainLes workshop, 2018.
- ✧ Y. Zhao, **H. Li**, R. Zhou, G. Tetteh and B. Menze, “Automatic Multi-Atlas Segmentation for Abdominal Images Using Template Construction and Robust Principal Component Analysis”, Proceedings of International Conference on Pattern Recognition (ICPR), 2018.

- ✧ **H. Li**, H. Huang, W. Zheng, X. Xie, J. Zhang, “HEp-2 Specimen Classification via Deep CNNs and Pattern Histogram”, Proceedings of International Conference on Pattern Recognition (**ICPR**), 2016.
- ✧ **H. Li**, J. Zhang, W. Zheng, “HEp-2 Cells Staining Patterns Classification via Wavelet Scattering Network and Random Forest”, Proceedings of Asian Conference on Pattern Recognition (ACPR), 2015.
- ✧ D. Huang, X. Li, **H. Li**, W. Zheng, “Learning 3D Compact Binary Descriptor for Human Action Recognition in Video”, Proceedings of Chinese Conference on Biometric Recognition, 2015.

Preprints:

- ✧ M. F. Rachmadi, M. V. Hernández, **H. Li**, R. Guerrero, J. Zhang, D. Rueckert, T. Komura, “Limited One-time Sampling Irregularity Age Map (LOTS-IAM): Automatic Unsupervised Detection of Brain White Matter Abnormalities in Structural Magnetic Resonance Images” , in bioRxiv (334292), submitted to Medical Image Analysis.
- ✧ J. Ma, X. Li, **H. Li**, B. H. Menze, S. Liang, R. Zhang, W. Zheng, “Group-Attention Single-Shot Detector (GA-SSD): Finding Pulmonary Nodules in Large-Scale CT Images”, submitted to MIDL 2019.
- ✧ **H. Li**, Wei-Shi Zheng and Jianguo Zhang, “Deep CNNs for HEp-2 cells classification: A cross-specimen analysis.” in arxiv. 1604.05816.

Academic Activities

- ✧ **Review for Journals:** NeuroImage, IET Computer Vision.
- ✧ **Talks:**
SINAPSE 2018 in Edinburg of UK, “Fully Convolutional Networks Ensembles for White Matter Hyperintensities Segmentation in MR Images”.

Supervision / Teaching Experience

- ✧ Master student projects/thesis under the supervision of Prof. Bjoern Menze and me:
 1. Master thesis, “Biomedical Image Analysis of Osteoarthritis Mouse Phenotype”, finished by Aly Said (03/2018).
 2. Master research project, “Segmentation of Brain Tissues Using Multi-Modality MR Images and Deep Networks”, finished by Andrii Zhygadlo (08/2018).
 3. Master thesis, “Deep Learning and Attention Mechanism for Early Diagnosis of Pancreas Cysts”
 4. Master project, “Segmentation and Progression Prediction of Brain Lesions in Multi-Modality MR Images”
- ✧ Lecturer for Artificial Intelligence in Medical Imaging (Munich, 11/2018, totally 14 hours)
- ✧ Teaching Assistant for Deep Learning Practice (Munich, 03/2018, totally 8 hours)
- ✧ Teaching Assistant for Linear Algebra Practice (2+2 international undergraduate programme, in English), from September 2015 to January 2016

Information of Referees

- ✧ Prof. Dr. Bjoern Menze, Assistant Professor in Technical University of Munich, Germany
Email: bjoern.menze@tum.de
- ✧ Prof. Dr. Jianguo Zhang, Reader in University of Dundee, United Kingdom
Email: j.n.zhang@dundee.ac.uk
- ✧ Prof. Dr. Wei-Shi Zheng, Professor in Sun Yat-sen University, China
Email: wzsheng@ieee.org

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