

# DONGMING WEI

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## EDUCATION

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**Shanghai Jiao Tong University, Shanghai** *Sep. 2016 - March 2021 (Exp.)*  
*Ph.D. Candidate, School of Biomedical Engineering* *Sponsored by NSFC*

**Beihang University, Beijing** *Sep. 2012 - June 2016*  
*Bachelor of Information Engineering* *Overall Rank: 3/170*

## VISITING EXPERIENCE

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**University of North Carolina at Chapel Hill, Chapel Hill** *Jan. 2019 - April 2020*  
*Visiting Researcher, Research Assistant, BRIC* *sponsored by NIH*

**University of Oulu, Oulu** *Feb. 2016 - Aug. 2016*  
*Visiting Student, CMVS, Dept. of Computer Science and Engineering* *sponsored by CSC*

**National Sun Yat-sen University, Kaohsiung** *July 2013*  
*Visiting Student, Dept. of Computer Science and Engineering* *sponsored by Beihang University*

## PROJECTS

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**Generative Model based Image Registration** *09.2016*

- *The project aims at developing the generative model based registration. The generative models includes morphology simplification model, MR-to-CT model, inpainting model, and deformation field predication model. This project is sponsored by Shanghai Jiao Tong University, University of North Carolina at Chapel Hill.*

**Heart Rate and Heart Rate Variability Measurement Using Face Videos** *03.2016 - 07.2016*

- *Developed the algorithm for measuring the heart rate and its variability via cameras. The project is sponsored by China Scholarship Council.*

**Computer Vision Based Mini UAV Indoor Navigation System** *06.2013 - 12.2015*

- *Developed a system to deliver the shippment automatically, including hardware and software. This project is ranked as the nationally outstanding project, and sponsored by Ministry of Education in China.*

## WORK EXPERIENCE

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**Zhangjiang Lab, Shanghai** *Sep. 2020 - Now*  
*Institute of Brain Science and Brain-Inspired Technology* *Visiting Researcher*

- *Develop the brain fMRI analysis pipeline.*

**Huawei, Hangzhou** *July 2020 - Sep. 2020*  
*Intern* *Algorithm Engineer*

- *Conditional GAN based visible and infrared image fusion.*

**Varian, Shanghai** *Jan. 2020 - April 2020*  
*Intern* *Software Engineer*

- Organ tracking in 4D-CT images via registration, including publishing patents and papers.

**United Imaging Intelligence, Shanghai**  
*Research Intern.*

July 2018 - Dec. 2018  
*Algorithm Engineer*

- Whole body MR-to-CT synthesis and MR-CT registration, including publishing patents and papers.

**Shanghai Jiao Tong University, Shanghai**  
*Computer Vision in Biomedical Engineering*

Feb. 2017 - June 2017  
*Teaching Assistant*

- Tutorial after class.

## REWARDS

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National Scholarship at Shanghai Jiao Tong University, Outstanding Graduates of Beihang University, Beijing Sanhao Student, Samsung Scholarship.

## SELECTED PUBLICATION

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- [1] **Wei D**, Ahmad S, Huo J, Yap P, Xue Z, Li W, Shen D, Wang Q. "SLIR: Synthesis, Localization, Inpainting, and Registration for Image-Guided Thermal Ablation of Liver Tumors." *Medical Image Analysis* (2020): 101763. (**IF: 11.148**)
- [2] **Wei D**, Zhang L, Wu Z, Cao X, Li G, Shen D, and Wang Q. "Deep Morphological Simplification Network (MS-Net) for Guided Registration of Brain Magnetic Resonance Images." *Pattern Recognition* (2019): 107171. (**IF: 7.196**)
- [3] **Wei D**, Ahmad S, Huo J, Ge Y, Peng W, Yap P, Xue Z, Li W, Shen D, Wang Q. "Synthesis and Inpainting-based MR-CT Registration for Image-Guided Thermal Ablation of Liver Tumors." *MICCAI 2019, Shenzhen, China, Oct 13-17, 2019.*
- [4] **Wei D**, Ahmad S, Wu Z, Cao X, Ren X, Li G, Shen D, Wang Q. "Morphological Simplification of Brain MR Images by Deep Learning for Facilitating Deformable Registration." *MLMI 2019, Shenzhen, China, Oct 13, 2019.*
- [5] **Wei D**, Ahmad S, Shen D, Wang Q, Yap P. "An Auto-Context Deformable Registration Network for Infant Brain MRI." *arXiv preprint arXiv:2005.09230.*
- [6] **Wei D**, Wenlong Yang, Pascal Paysan, Hefeng Liu. "An Unsupervised Learning based Deformable Registration Network for 4D-CT: Analysis and Application." *CBM 2020, Lima, Peru, Oct 4, 2020. (Oral)*
- [7] Xuan K, **Wei D**, Zhan Y, Wu D, Wang Q. "Reconstruction of Isotropic High-Resolution MR Image from Multiple Anisotropic Scans using Sparse Fidelity Loss and Adversarial Regularization." *MICCAI 2019, Shenzhen, China, Oct 13-17, 2019.*
- [8] Huang P, Li D, Jiao Z, **Wei D**, Li D, Zhang D, and Shen D. "CoCa-GAN: Common-feature-learning-based Context-aware Generative Adversarial Network for Glioma Grading." *MICCAI 2019, Shenzhen, China, Oct 13-17, 2019.*
- [9] Ge Y#, **Wei D**#, Xue Z, Wang Q, Zhou X, Zhan Y, and Liao S. "Unpaired MR to CT Synthesis with Explicit Structural Constrained Adversarial Learning." *ISBI 2019, Venice, Italy, 2019, pp. 1096-1099. (# equal contribution)*
- [10] Ren X, Huo J, Xuan K, **Wei D**, et al. "Robust brain MR segmentation for hydrocephalus images: hard and soft attention." *ISBI 2020.*
- [11] Ma L, Lian C, Kim D, Xiao D, **Wei D**, et al. "Bidirectional transformation between 3D facial soft tissue and bony structure for orthognathic surgical planning." *IEEE transactions on medical imaging. (Under Review)*
- [12] Huang P, Li D, Jiao Z, **Wei D**, et al. "Common feature learning for brain tumor MRI synthesis and tumor segmentation by context-aware generative adversarial network." *IEEE transactions on medical imaging. (Under Review)*
- [13] Yang W, **Wei D**, et al. "Distilled Conditional GAN for 4D CT Generation: Towards Real-time Radiotherapy Using Naturally Massive Available Data." *ISBI 2021. (Under Review)*

## PROFESSIONAL SERVICES

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### Conference Reviews:

- MICCAI 2019, MICCAI 2020, MLMI 2020, ISBI 2021

### Journal Reviews:

- Pattern Recognition
- IEEE Transactions on Medical Imaging (TMI)
- IEEE Transactions on Biomedical Engineering (TBME)
- IEEE Access