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EDUCATION

2010 – 2019 **University of South Carolina, South Carolina, USA**
Ph. D. in Computer Science

2008 – 2010 **Tianjin University, Tianjin, China**
M. S. Eng. in Information and Informatics Engineering

2004 – 2008 **Dalian University of Technology, Dalian, China**
B. S. Eng. in Electronic Engineering

WORK EXPERIENCE

09/2019 – now **PAII Inc,**
Senior Research Scientist

02/2019 – 05/2019 **PAII Inc,**
Research Scientist Internship

05/2017 – 08/2017 **TuSimple LLC**
General Software Engineer Internship

CONFERENCE PUBLICATIONS

[1] **Guo, D.***, Ye, X.*, Ge, J., Di, X., Lu, L., Huang, L., Xie, G., Xiao, J., Lu, Z., Peng, L., Yan, S., Jin, D., DeepStationing: Thoracic Lymph Node Station Parsing in CT Scans using Anatomical Context Encoding and Key Organ Auto-Search. *MICCAI*, Strasbourg, France, 2021

[2] Liu, F.*, Yan, K.*, Harrison, A., **Guo, D.**, Lu, L., Yuille, A., Huang, L., Xie, G., Xiao, J., Ye, X., Jin, D., SAME: Deformable Image Registration based on Self-supervised Anatomical Embeddings., *MICCAI*, Strasbourg, France, 2021

[3] Zhu, Z., Jin, D., Yan, K., Ho, T., Ye, X., **Guo, D.**, Chao, C., Xiao, J., Yuille, A., Lu, L., Lymph Node Gross Tumor Volume Detection and Segmentation via Distance-based Gating using 3D CT/PET Imaging in Radiotherapy. *MICCAI*, Lima, Peru, 2020

[4] Chao, C., Zhu, Z., **Guo, D.**, Jin, D., Cai, J., Yan, K., Ho, T., Ye, X., Yuille, A., Lu, L., Lymph Node Gross Tumor Volume Detection in Oncology Imaging via Relationship Learning Using Graph Neural Network. *MICCAI*, Lima, Peru, 2020

[5] **Guo, D.,** Jin, D., Zhu, Z., Ho, T., Harrison, A. P., Chao, C., Xiao, J., Yuille, A., Lu, L., Organ at Risk Segmentation for Head and Neck Cancer using Stratified Learning and Neural Architecture Search. *CVPR*, Seattle, U.S., 2020

[6] Jin, D., **Guo, D.**, Ho, T. Y., Harrison, A. P., Xiao, J., Tseng, C. K., Lu, L., Deep Esophageal Clinical Target Volume Delineation Using Encoded 3D Spatial Context of Tumors, Lymph Nodes, and Organs At Risk. *MICCAI*, Shenzhen, China, 2019

[7] Jin, D., **Guo, D.,** Ho, T. Y., Harrison, A. P., Xiao, J., Tseng, C. K., Lu, L., Accurate esophageal gross tumor volume segmentation in pet/ct using two-stream chained 3d deep network fusion. *MICCAI*, Shenzhen, China, 2019 ***Oral***

[8] **Guo, D.**, Zheng, K., Wang, S., Lesion detection using T1-weighted MRI: A new approach based on functional cortical ROIs. *ICIP*, Beijing, China, 2017.

[9] Zheng, K., Fan, X., Lin, Y., Guo, H., Yu, H., **Guo, D.**, Wang, S, Learning View-Invariant Features for Person Identification in Temporally Synchronized Videos Taken by Wearable Cameras. *ICCV*, Venice, Italy, *2017*

[10] Zheng, K., Lin, Y., Zhou, Y., Salvi, D., Fan, X., **Guo, D.**, Wang, S, Video-based action detection using multiple wearable cameras. *In Workshop at the ECCV*, Zürich, Switzerland, 2014

JOURNAL PUBLICATIONS

[11] Jin, D.*, **Guo, D.*,** Ho. T., Harrison, A., Xiao, J., Tseng, C., Lu, L., DeepTarget: Gross Tumor and Clinical Target Volume Segmentation in Esophageal Cancer Radiotherapy. *Medical Image Analysis*, 2020, (*MICCAI-2019 Selected Papers Special Issue)*

[12] Yu, H., **Guo, D.,** Yan, Z., Fu, L., Simmons, J., Przybyla, C. P., Wang, S., Weakly Supervised Easy-to-hard Learning for Object Detection in Image Sequences. *Neurocomputing, 2020*

[13] Song, S., Yu, H., Miao, Z., **Guo, D.**, Ke, W., Ma, C., Wang, S., An easy-to-hard learning strategy for within-image co-saliency detection. *Neurocomputing, 2019*

[14] **Guo, D.,** Pei, Y., Zheng, K., Yu, H., Lu, Y., Wang, S., Degraded Image Semantic Segmentation With Dense-Gram Networks. *IEEE TIP, 2019*

[15] **Guo, D.,** Zhu, L., Lu, Y., Yu, H., Wang, S., Small object sensitive segmentation of urban street scene with spatial adjacency between object classes. *IEEE TIP, 2019*

[16] **Guo, D.**, Fridriksson, J., Fillmore, P., Rorden, C., Yu, H., Zheng, K., Wang, S., Automated lesion detection on MRI scans using combined unsupervised and supervised methods. *BMC medical imaging, 2015*

[17] Basilakos, A., Fillmore, P. T., Rorden, C., **Guo, D.**, Bonilha, L., Fridriksson, J., Regional white matter damage predicts speech fluency in chronic post-stroke aphasia. *Frontiers in human neuroscience, 2014*

[18] Fridriksson, J., Fillmore, P., **Guo, D.**, Rorden, C., Chronic Broca's aphasia is caused by damage to Broca's and Wernicke's areas. *Cerebral Cortex*, 2014

[19] Fridriksson, J., **Guo, D.**, Fillmore, P., Holland, A., Rorden, C., Damage to the anterior arcuate fasciculus predicts non-fluent speech production in aphasia. *Brain*, 2013

** - equal contribution*

CLINICAL ABSTRACTS

[20] SAME: Fast And Accurate Algorithm for Deformable Image Registration on CT, *RSNA, 2021 (under review)*
[21] Ho, T., **Guo, D.**, Jin, D., Zhu, Z., Hung, T., Xiao, J., Lu, L., Lin, C., Comprehensive Head and Neck Organs at Risk Segmentation using Stratified Learning and Neural Architecture Search, *ASTRO,* 2021
[22] Zhu, Z., Ho, T., Jin, D., Yan, K., Ye, X., **Guo, D.**, Xiao, J., Lu, L., Hung, T., Pai, P., Tseng, C., Deep Learning Based Lymph Node Gross Tumor Volume Detection via Distance-guided Gating using CT and 18F-FDG PET in Esophageal Cancer Radiotherapy, ASTRO, 2021
[23] Ye, X., **Guo, D.**, Di, X., Ge, J., Ho, T., Lu, Z., Xiao, J., Lu, L., Jin, D., Yan, S., Anatomy Guided Thoracic Lymph Node Station Delineation in CT using Deep Learning Model, *ASTRO,* 2021
[24] Ho, T., Jin, D., **Guo, D.**, Harrison, A., Tseng, C, Lu, L., Yen, Z., Automated Esophageal Gross Tumor Volume Segmentation in 18F-FDG PET and CT for Radiotherapy using Two-Stream 3D Deep Network Fusion, *SNMMI,* 2020 ***Oral***
[25] Ho, T., Jin, D., **Guo, D.**, Harrison, A., Tseng, C, Lu, L., Automated Esophageal Clinical Target Volume Delineation using Encoded 3D Spatial Context of Tumors, Lymph Nodes, and Organs At Risk, *RSNA,* 2020
[26] Zhu, Z., Jin, D., Yan, K., Ho, T., Ye, X., **Guo, D.**, Chao, C., Lu, L., Lymph Node Gross Tumor Volume Detection and Segmentation via Distance-based Gating Using CT/PET Imaging in Esophageal Cancer Radiotherapy, *RSNA,* 2020 ***Oral***
[27] Ho, T., **Guo, D.**, Jin, D., Zhu, Z., Harrison, A., Chao, C., Lin, C., Lu, L., Organs at Risk Segmentation for Head and Neck Cancer Using Stratified Learning and Neural Architecture Search, *RSNA,* 2020 ***Oral***

UNDER REVIEW/PREPARATION

[28] **Guo, D**.*, Ge, J.*, Ye, X.*, Huang, B., Chen, Y., Xin, Y., Huang, L., Xie, G., Xiao, J., Yan, S., Lu, L., Lin, C., Jin, D., Ho, T., Comprehensive Head and Neck Organs at Risk Segmentation using Stratified Learning and Neural Architecture Search in a Multi-center Evaluation, *(aiming at Nature Communication)*
[29] Zhu, Z., Yan, K., **Guo, D**.*, Lu, L.*, Chao, C., Ye, X., Harrison, A., Xiao, J., Yuille, A., Ho, T., Jin, D., DeepNode: Lymph node gross tumor volume detection and segmentation using distance-stratified learning from PET/CT imaging, *(aiming at Medical Image Analysis)*
[30] Liu, F., **Guo, D**., Lai, Y., Tang, Y., Li, C., Yao, J., Zhang, L., Huang, L., Xie, G., Xiao, J., Lu, L., Huang, B., Jin, D., Automated Gross Tumor Volume Segmentation for Hepatocellular Carcinoma in planning CT via multi-phase MRI fusion in Liver Proton Therapy, *(aiming at AAAI)*
[31] Ye, X.*, **Guo, D**.*, Tseng, C., Ge, J., Hung, T., Pai, P., Ren, Y., Zheng, L., Zhu, X., Peng, L., Chen, Y., Chen, X., Chou, C., Chen, D., Yu, J., Chen, Y., Xin, Y., Huang, L., Xie, G., Xiao, J., Lu, L., Yan, S.†, Jin, D.†, Ho, T.†, Multi-institutional Validation of Two-Streamed Deep Learning Method for Automated Delineation of Esophageal Gross Tumor Volume using planning CT and FDG-PET/CT, *Radiology*, 2021 *(under review)*
[32] Yan, K., Cai, J., Jin, D., Miao, S., Harrison, A., **Guo, D.**, Tang, Y., Xiao, J., Lu, L, Self-supervised Learning of Pixel-wise Anatomical Embeddings in Radiological Images, *ICCV* 2021 *(under rebuttal)*

PATENTS

[33] Device and method for thoracic lymph node station parsing, in submission, 06/2021.
[34] Device and method for detecting clinically important objects in medical images with distance-based decision stratification, U.S. provisional patent application no. 62,962,281, USPTO regular patent application no. 17,094,984, patent date filed 01/17/2020
[35] Device and method for organs at risk segmentation using stratified learning and neural architecture search, U.S. non-provisional patent application no. 62,962,277, USPTO regular patent application no. 16,928,521, patent date filed 01/17/2020.
[36] Clinical target volume delineation method and electronic device, U.S. patent no. 16,546,615
[37] Gross tumor volume segmentation method and computer device, U.S. patent no. 10,929,981
[38] System and method for large-scale lane marking detection using multimodal sensor data. U.S. patent no. 10,528,823.
[39] System and method for large-scale lane marking detection using multimodal sensor data. U.S. patent no. 10,657,390.

AWARDS

MICCAI-2020 NIH Award.
Medical Image Analysis MICCAI-2019 selected papers.

PROFESSIONAL SERVICES

Guest Editor
Frontiers in Neuroscience: "Machine Learning for Quantitative Neuroimaging Analysis", 2021

Journal Reviewer
IEEE Transactions on Pattern Analysis and Machine Intelligence
IEEE Transactions on Image Processing
IEEE Transactions on Multimedia
IEEE Access
IET Electronics Letters
IET Computer Vision
IET Image Processing
Pattern Recognition Letters

Conference Reviewer
AAAI 2020, MICCAI 2020-2021

** - equal contribution*