

# Stanford

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## Yannan Yu

Postdoctoral Research Fellow, Radiology

### Bio

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#### HONORS AND AWARDS

- Excellence Poster Award of Tiantan International Stroke conference, Chinese Stroke Association (2015)
- The Finalist of Institute for US-China Neuroscience and Stroke Initiative, Chinese Stroke Association (2016)
- Artificial Intelligence in Medical Imaging seed grant, Center for Artificial Intelligence in Medicine & Imaging (2019)
- Brain & Brain PET 2019 Early Career Investigator Travel Bursary, The International Society for Cerebral Blood Flow and Metabolism (ISCBFM) (2019)

#### PROFESSIONAL EDUCATION

- Bachelor of Medicine, Zhejiang University (2013)
- Doctor of Medicine, Peking Union Medical College (2016)

#### STANFORD ADVISORS

- Greg Zaharchuk, Postdoctoral Faculty Sponsor

### Research & Scholarship

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#### CURRENT RESEARCH AND SCHOLARLY INTERESTS

My research focuses on improving acute ischemic stroke care by applying the latest deep learning algorithm on clinical routine imaging and patient clinical data. This includes:

- 1) more precise prediction of the final stroke lesion from the baseline MR or CT images. This prediction will enable physicians to better select patients for reperfusion therapy.
- 2) prediction penumbra using non-contrast enhanced MRI.
- 3) Automatic detection of artery occlusion and mTICI classification on DSA image.

### Publications

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#### PUBLICATIONS

- **Absent filling of the superficial middle cerebral vein is associated with reperfusion but not parenchymal hematoma in stroke patients undergoing thrombectomy: an observational study** *ANNALS OF TRANSLATIONAL MEDICINE*  
Zhang, S., Zhang, R., Jin, B., Shi, Z., Li, C., Yu, Y., Wang, Z.  
2020; 8 (21): 1410
- **Use of Deep Learning to Predict Final Ischemic Stroke Lesions From Initial Magnetic Resonance Imaging.** *JAMA network open*  
Yu, Y., Xie, Y., Thamm, T., Gong, E., Ouyang, J., Huang, C., Christensen, S., Marks, M. P., Lansberg, M. G., Albers, G. W., Zaharchuk, G.  
2020; 3 (3): e200772

- **Absent Contrast Filling of Ipsilateral Superficial Middle Cerebral Vein Predicts Midline Shift in Acute Middle Cerebral Artery Occlusion.** *Frontiers in neurology*  
Zhang, S., Lin, L., Zhang, R., Wang, M., Yu, Y., Shi, Z., Parsons, M., Geng, Y.  
2020; 11: 570844
- **Deep Learning Detection of Penumbra Tissue on Arterial Spin Labeling in Stroke.** *Stroke*  
Wang, K., Shou, Q., Ma, S. J., Liebeskind, D., Qiao, X. J., Saver, J., Salamon, N., Kim, H., Yu, Y., Xie, Y., Zaharchuk, G., Scalzo, F., Wang, et al  
2019: STROKEAHA119027457
- **Prediction of Subacute Infarction in Acute Ischemic Stroke Using Baseline Multi-modal MRI and Deep Learning**  
Yu Yannan, Xie, Y., Thamm, T., Chen, K. T., Gong Enhao, Zaharchuk, G.  
LIPPINCOTT WILLIAMS & WILKINS.2019
- **Quantitative score of the vessel morphology in middle cerebral artery atherosclerosis.** *Journal of the neurological sciences*  
Meng, Y., Li, M., Yu, Y., Xu, Y., Gao, S., Feng, F., Xu, W. H.  
2019; 399: 111–17
- **LSTM Network for Prediction of Hemorrhagic Transformation in Acute Stroke**  
Yu, Y., Parsi, B., Speier, W., Arnold, C., Lou, M., Scalzo, F., Shen, D., Liu, T., Peters, T. M., Staib, L. H., Essert, C., Zhou, S., Yap, et al  
SPRINGER INTERNATIONAL PUBLISHING AG.2019: 177–85
- **Middle Cerebral Artery Plaque Hyperintensity on T2-Weighted Vessel Wall Imaging Is Associated with Ischemic Stroke.** *AJNR. American journal of neuroradiology*  
Yu, Y. N., Liu, M. W., Villablanca, J. P., Li, M. L., Xu, Y. Y., Gao, S., Feng, F., Liebeskind, D. S., Scalzo, F., Xu, W. H.  
2019
- **Middle cerebral artery geometric features are associated with plaque distribution and stroke.** *Neurology*  
Yu, Y. N., Li, M. L., Xu, Y. Y., Meng, Y., Trieu, H., Villablanca, J. P., Gao, S., Feng, F., Liebeskind, D. S., Xu, W. H.  
2018; 91 (19): e1760–e1769
- **Prediction of Hemorrhagic Transformation Severity in Acute Stroke From Source Perfusion MRI.** *IEEE transactions on bio-medical engineering*  
Yu, Y., Guo, D., Lou, M., Liebeskind, D., Scalzo, F.  
2018; 65 (9): 2058–65
- **Association of anemia and hemoglobin decrease during acute stroke treatment with infarct growth and clinical outcome.** *PloS one*  
Bellwald, S., Balasubramaniam, R., Nagler, M., Burri, M. S., Fischer, S. D., Hakim, A., Dobrocky, T., Yu, Y., Scalzo, F., Heldner, M. R., Wiest, R., Mono, M. L., Sarikya, et al  
2018; 13 (9): e0203535
- **Cerebral venous collaterals: A new fort for fighting ischemic stroke?** *Progress in neurobiology*  
Tong, L. S., Guo, Z. N., Ou, Y. B., Yu, Y. N., Zhang, X. C., Tang, J., Zhang, J. H., Lou, M.  
2017; 163-164: 172–93
- **Different risk factors for poor outcome between patients with positive and negative susceptibility vessel sign.** *Journal of neurointerventional surgery*  
Yan, S., Liu, K., Tong, L., Yu, Y., Zhang, S., Lou, M.  
2016; 8 (10): 1001–5
- **Defining Core and Penumbra in Ischemic Stroke: A Voxel- and Volume-Based Analysis of Whole Brain CT Perfusion.** *Scientific reports*  
Yu, Y., Han, Q., Ding, X., Chen, Q., Ye, K., Zhang, S., Yan, S., Campbell, B. C., Parsons, M. W., Wang, S., Lou, M.  
2016; 6: 20932
- **Optimal magnetic resonance perfusion thresholds identifying ischemic penumbra and infarct core: a Chinese population-based study.** *CNS neuroscience & therapeutics*  
Zhang, S., Tang, H., Yu, Y. N., Yan, S. Q., Parsons, M. W., Lou, M.  
2015; 21 (3): 289–95
- **[Thresholds of CT perfusion in predicting ischemic penumbra and infarct core in patients with acute ischemic stroke].** *Zhejiang da xue xue bao. Yi xue ban = Journal of Zhejiang University. Medical sciences*  
Yu, Y. N., Ding, X. F., Zhang, S., Lou, M.  
2014; 43 (1): 7–13

- **[Dynamic CT angiography in evaluation of collateral flow and outcome of acute ischemic stroke patients after intravenous thrombolysis].** *Zhejiang da xue xue bao. Yi xue ban = Journal of Zhejiang University. Medical sciences*  
Chen, W. L., Ding, X. F., Zhang, S., Yu, Y. N., Chen, Z. C., Lou, M.  
2014; 43 (1): 14–19