

JIANAN CHEN

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OVERVIEW

I am a Ph.D. candidate in the Department of Medical Biophysics at University of Toronto. My research has been focused on the stratification of cancer patients using medical image analysis. I am interested in developing unsupervised and semi-supervised algorithms to solve clinical problems.

EDUCATION

- Ph.D. Medical Biophysics**, University of Toronto, Toronto, CA (2018 –)
Supervisor: Anne Martel
- M.Sc. Web Intelligence** King's College London, London, UK (2016 – 2017)
M.Sc. in Web Intelligence High Distinction
- B.Eng. Communications Engineering**, Shanghai University, Shanghai, China (2010 - 2014)
B.Eng. in Communications Engineering First Class Honours

PREPRINTS

1. Balsiger, F., Jungo, A., **Chen, J.**, Ezhov, I., Liu, S., Ma, J., Paetzold, J.C., Sekuboyina, A., Shit, S., Suter, Y. and Yekini, M., 2021. The MICCAI Hackathon on reproducibility, diversity, and selection of papers at the MICCAI conference. arXiv preprint arXiv:2103.05437.

CONFERENCE PUBLICATIONS

2. **Chen, J.**, Cheung, H., Milot, L. and Martel, A.L., 2021. AMINN: Autoencoder-based Multiple Instance Neural Network Improves Outcome Prediction of Multifocal Liver Metastases. *In progress*, International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), 2021.
3. Ma, J., Wei, Z., Zhang, Y., Wang, Y., Lv, R., Zhu, C., Chen, G., Liu, J., Peng, C., Wang, L., Wang, Y. and **Chen, J.** How Distance Transform Maps Boost Segmentation CNNs: An Empirical Study. In Medical Imaging with Deep Learning, 2020.
4. **Chen, J.**, Amemiya, Y., Kuling, G., Fashandi, H., Yerofeyeva, Y., Hussein, H., Slodkowska, E., Ginty, F., Seth, A., Yaffe, M. and Martel, A.L., Texture heterogeneity of breast tumour in magnetic resonance imaging can be explained by differentially regulated genes. In Proceedings of San Antonio Breast Cancer Symposium, AACR, 2019.
5. **Chen, J.**, Milot, L., Cheung, H.M. and Martel, A.L., Unsupervised Clustering of Quantitative Imaging Phenotypes Using Autoencoder and Gaussian Mixture Model. In International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), 2019.

JOURNAL PUBLICATIONS

6. Ma, J., **Chen, J.**, Ng, M., Huang, R., Li, Y., Li, C., Yang, X. and Martel, A.L., 2021. Loss Odyssey in Medical Image Segmentation. Medical Image Analysis, 2021.
7. Gao, M., Liu, S., **Chen, J.**, Gordon, K.C., Tian, F. and McGoverin, C.M., 2021. Potential of Raman Spectroscopy in Facilitating Pharmaceutical Formulations Development—An AI perspective. International Journal of Pharmaceutics, 2021.

8. Ma, J., Wang, Y., An, X., Ge, C., Yu, Z., **Chen, J.**, Zhu, Q., Dong, G., He, J., He, Z. and Nie, Z., 2020. Towards Efficient COVID-19 CT Learning: A Benchmark for Lung and Infection Segmentation. Medical Physics, 2020.
9. Zheng, L., Shen, L., **Chen, J.**, An, P. and Luo, J., No-reference quality assessment for screen content images based on hybrid region features fusion. IEEE Transactions on Multimedia, 2019.
10. **Chen, J.**, Shen, L., Zheng, L. and Jiang, X., Naturalization module in neural networks for screen content image quality assessment. IEEE Signal Processing Letters, 2018.

WORKSHOP PUBLICATIONS

11. Ciga, O., **Chen, J.** and Martel, A., 2019. Multi-layer domain adaptation for deep convolutional networks. In Domain Adaptation and Representation Transfer and Medical Image Learning with Less Labels and Imperfect Data, (DART-MICCAI) 2019.

REVIEW CONTRIBUTIONS

Medical Image Analysis	2021
Frontiers in Oncology	2021
International Conference on Medical Image Computing & Computer Assisted Intervention (MICCAI) 2020, 2021	
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)	2018

TEACHING EXPERIENCE

Teaching assistant, University of Toronto
 CSC401/2511 - Natural Language Computing, Spring 2019 **Supervisor:** Prof. Frank Rudzicz
 CSC108 - Introduction to Programming, Fall 2020

AWARDS

MICCAI Travel Award 2021
 Best Contribution Award, MICCAI Hackathon 2020
 Medical Biophysics Excellence Award – SRI-PSP
 Vector-Mitacs Accelerate Fellowship
 Sunnybrook Research Institute Travel Award
 Best poster presentation runner-up award at James Lepock Memorial Symposium 2019
 Medical Biophysics Visa differential scholarship
 Steve Barker Memorial Prize – Top 1 of KCL Web Intelligence Class
 First prize scholarship – Top 5% of SHU Class