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. **Chen, J.**, Cheung, H., Milot, L. and Martel, A.L., 2020. AMINN: Autoencoder-based Multiple Instance Neural Network for Outcome Prediction of Multifocal Liver Metastases. arXiv preprint arXiv:2012.06875.

CONFERENCE PUBLICATIONS

2. 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.

3. **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.

4. **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

5. Gao, M., Liu, S., **Chen, J.**, Gordon, K.C., Tian, F. and McGoverin, C.M., 2021. Potential of Raman Spectroscopy in Facilitating Pharmaceutical Formulations DevelopmPotential of Raman Spectroscopy in Facilitating Pharmaceutical Formulations DevelopmentâĂŞAn AI perspective. International Journal of Pharmaceutics, 2021.

6. 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.

7. 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.

8. **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

9. 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

International Conference on Medical Image Computing & Computer Assisted Intervention (MICCAI) 2020
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

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