YU ZHANG

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329 Rose Street, Lexington, KY, 40506, USA

EDUCATION

University of Kentucky *Aug. 2017 - Present*
Ph.D. in Computer Science
Advisor: Dr. Nathan Jacobs
Overall GPA: 3.89/4.00

Northeastern University (CN) *Sept. 2013 - June 2017*
B.E. in Communication Engineering

SKILLS

Experience: Deep Learning, Machine Learning, Computer Vision, Unsupervised Domain Adaptation, Adversarial Attacks, Point Clouds, Astrophysics Data Analysis, Medical Image Analysis
Programming: Python, PyTorch, MATLAB, C, C++, Shell, SQL

PROFESSIONAL EXPERIENCE

Research Assistant, University of Kentucky, Lexington, KY *Summer 2019 - Present*

- Unsupervised domain adaptation for mammogram image classification and semantic segmentation.
- Data augmentation, neural network generalization, and adversarial training for medical images.
- Deep learning on astrophysics data, magnetic field classification/regression on unbalanced dataset.

Teaching Assistant, University of Kentucky, Lexington, KY

- CS215: Introduction to Program Design, Abstraction and Problem Solving *Spring 2019*
- CS216: Introduction to Software Engineering Techniques *Fall 2018, Fall 2019*
- CS371: Introduction to Computer Networking *Spring 2018*

PUBLICATIONS

1. G. Liang, X. Wang, **Yu Zhang**, N. Jacobs. "Weakly-Supervised Self-Training for Breast Cancer Localization". In *Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, 2020.
2. X. Wang, G. Liang, **Yu Zhang**, H. Blanton, Z. Bessinger, N. Jacobs. "Inconsistent Performance of Deep Learning Models on Mammogram Classification". In *Journal of the American College of Radiology*, 2020. [Impact factor: 3.785]
3. **Yu Zhang**, G. Liang, T. Salem, N. Jacobs. "Defense-PointNet: Protecting PointNet Against Adversarial Attacks". In *IEEE International Conference on Big Data (BigData) Workshop: The Next Frontier of Big Data From LiDAR*, 2019.
4. **Yu Zhang**, X. Wang, H. Blanton, G. Liang, X. Xing, N. Jacobs. "2D Convolutional Neural Networks for 3D Digital Breast Tomosynthesis Classification". In *IEEE International Conference of Bioinformatics and Biomedicine (BIBM)*, 2019. [Acceptance rate: 18.4%]
5. G. Liang, X. Wang, **Yu Zhang**, X. Xing, H. Blanton, T. Salem, N. Jacobs. "Joint 2D-3D Breast Cancer Classification". In *IEEE International Conference of Bioinformatics and Biomedicine (BIBM)*, 2019. [Acceptance rate: 18.4%]

6. G. Liang, **Yu Zhang**, J. Liu, N. Jacobs, X. Wang. "Training Deep Learning Models as Radiologists: Breast Cancer Classification Using Combined Whole 2D Mammography and Full Volume Digital Breast Tomosynthesis". In *Radiological Society of North America 105th Scientific Assembly and Annual Meeting (RSNA)*, 2019. [Abstract]

7. **Yu Zhang**, G. Liang, N. Jacobs, X. Wang. "Unsupervised Domain Adaptation for Mammogram Image Classification: A Promising Tool for Model Generalization". In *Conference on Machine Intelligence in Medical Imaging (C-MIMI)*, 2019. [Abstract]

TALKS

- "Defense-PointNet: Protecting PointNet Against Adversarial Attacks", Dec. 2019, IEEE BigData LiDAR Workshop, Los Angeles, CA
- "Unsupervised Domain Adaptation for Mammogram Image Classification: A Promising Tool for Model Generalization", Sep. 2019, C-MIMI, Austin, TX

AWARDS

- Conference Travel Grant, University of Kentucky, 2019
- ATS Fellowship, University of Kentucky, 2017-2018

SERVICE

- Reviewing for IEEE Winter Conference on Applications of Computer Vision (WACV 2020)
- Reviewing for The British Machine Vision Conference (BMVC 2020)