

Yucheng Tang

Cell: 929-394-1005
E-mail: yucheng.tang@vanderbilt.edu
818 19th Ave South, Nashville, TN, U.S.

Education

07/2018---Present: Vanderbilt University, TN, U.S.

Major: Electrical Engineering

Graduate Student

08/2016---05/2018: New York University, NY, U.S.

Major: Electrical Engineering

Degree: Master of Science

09/2011---07/2015: Tianjin University, Tianjin, China

Major: Electrical Engineering and Automation

Degree: Bachelor of Engineering

Academic Positions

07/2018 – Present **Graduate Research / Teaching Assistant**, Vanderbilt University, Nashville, TN.

Electrical Engineering.

Research Interests

07/2018 – Present Medical Image Analysis, Machine Learning, Biomedical Data Representation, Computer Vision

Research Employments

07/2018 – present **Research Assistant, Vanderbilt University, Vanderbilt Institute of Surgery and Engineering, MASI LAB, Nashville, TN U.S.**

06/2017 – 05/2018 **Research Intern, SIEMENS Corporation Research, Princeton, NJ, U.S.**

02/2017 – 06/2017 **Research Assistant, New York University, New York City, U.S**

Awards

2020 SPIE Medical Imaging RFW Best Paper Award (finalist, coauthor)

2020 SPIE Image Processing Best Poster Award (coauthor)

2020 SPIE Image Processing Best Student Paper Award (coauthor)

2019 Vanderbilt-IBM Graduate Fellow, Vanderbilt University

2014 “Excellent Student Cadre”, Tianjin University

Publications and Patents

Journal

1. Yuankai Huo, **Yucheng** Tang, Yunqiang Chen, Dashan Gao, Shizhong Han, Naiyun Zhou, Shunxing Bao, Smita De, James G. Terry, J. Jeffrey Carr, Richard G Abramson, and Bennett A. Landman. “Stochastic Tissue Window Normalization of Deep Learning on CT ” Journal of Medical Imaging.
2. Gao, R., Huo, Y., Bao, S., **Tang, Y.**, Antic, S.L., Epstein, E.S., Balar, A.B., Deppen, S., Paulson, A.B., Sandler, K.L. and Massion, P.P., 2019, October. Distanced LSTM: Time-Distanced Gates in Long Short-Term Memory Models for Lung Cancer Detection. In International Workshop on Machine Learning in Medical Imaging (pp. 310-318). Springer, Cham
3. **Yucheng Tang**, Riqiang Gao, Shizhong Han, Yunqiang Chen, Dashan Gao, Vishwesh Nath, Camilo Bermudez, Michael R. Savona, Richard G. Abramson, Shunxing Bao, Ilwoo Lyu, Yuankai Huo and Bennett A. Landman.

"Boosted Unsupervised Learning with Blind Robust Supervision and Correlation Mappings" IEEE transactions on medical imaging 2019. (Submitted)

4. **Yucheng Tang**, Shizhong Han, Yunqiang Chen, Dashan Gao, Riqiang Gao, Vishwesh Nath, Camilo Bermudez, Michael R. Savona, Richard G. Abramson, Shunxing Bao, Ilwoo Lyu, Yuankai Huo and Bennett A. Landman. "High-resolution 3D Abdominal Segmentation with Random Patch Network Fusion" Medical Image Analysis. (submitted)
5. **Yucheng Tang**, Riqiang Gao, Yunqiang Chen, Dashan Gao, Michael R. Savona, Richard G. Abramson, Shunxing Bao, Yuankai Huo and Bennett A. Landman. "Learning from Dispersed Manual Annotations with an Optimized Data Weighting Policy" Journal of Medical Imaging (submitted)

Conference

6. **Yucheng Tang**, Yuankai Huo, Yunxi Xiong, Hyeonsoo Moon, Albert Assad, Tamara K. Moyo, Michael R. Savona, Richard G. Abramson, and Bennett A. Landman. "Improving Splenomegaly Segmentation by Learning from Heterogeneous Multi-Source Labels." In SPIE Medical Imaging, Image Processing, 2019. (Oral) Validation and Optimization of Multi-Organ Segmentation on Clinical Imaging Archives
7. **Yucheng Tang**, Ho Hin Lee, Yuchen Xu, Olivia Tang, Yunqiang Chen, Dashan Gao, Shizhong Han, Riqiang Gao, Camilo Bermudez, Michael R. Savona, Richard G. Abramson, Yuankai Huo, Bennett A. Landman, Contrast Phase Classification with a Generative Adversarial Network, SPIE IP:MI 2020. Houston, TX
8. Olivia Tang, Yuchen Xu, **Yucheng Tang***, Ho Hin Lee, Yunqiang Chen, Dashan Gao, Shizhong Han, Riqiang Gao, Michael R. Savona, Richard G. Abramson, Yuankai Huo, Bennett A. Landman, "Validation and Optimization of Multi-Organ Segmentation on Clinical Imaging Archives", SPIE IP:MI 2020. Houston, TX.
9. Yuchen Xu*, Olivia Tang*, **Yucheng Tang****, Ho Hin Lee, Yunqiang Chen, Dashan Gao, Shizhong Han, Riqiang Gao, Michael R. Savona, Richard G. Abramson, Yuankai Huo, Bennett A. Landman, "Outlier Guided Optimization of Abdomen Segmentation", SPIE IP:MI 2020. Houston, TX
10. Ho Hin Lee, **Yucheng Tang***, Yuchen Xu, Olivia Tang, Yunqiang Chen, Dashan Gao, Shizhong Han, Riqiang Gao, Michael R. Savona, Richard G. Abramson, Yuankai Huo, Bennett A. Landman, Semi-Supervised Multi-Organ Segmentation through Quality Assurance Supervision, SPIE IP:MI 2020. Houston, TX
11. Riqiang Gao*, Lingfeng Li, Yuankai Huo, **Yucheng Tang**, Sanja L. Antic, Emily S. Epstein, Steve Deppen, Alexis B. Paulson, Kim L. Sandler, Pierre P. Massion, Bennett A. Landman, Deep Multi-task Prediction of Lung Cancer and Cancer-free Progression from Censored Heterogenous Clinical Imaging, SPIE IP:MI 2020. Houston, TX.
12. Yiyuan Yang, Riqiang Gao, **Yucheng Tang**, Sanja L. Antic, Steve Deppen, Yuankai Huo, Kim L. Sandler, Pierre P. Massion, Bennett A. Landman, Internal-transfer Weighting of Multi-task Learning for Lung Cancer Detection, SPIE IP:MI 2020. Houston, TX.
13. Riqiang Gao, **Yucheng Tang**, Kaiwen Xu, Mirza S. Khan, Sanja L. Antic, Steve Deppen, Kim L. Sandler, Pierre P. Massion, Yuankai Huo, Bennett A. Landman. Adjusted Time-to-Event Analysis with Imaging and Non-imaging data for Lung Cancer Risk Estimation. MICCAI 2020 (submission).
14. **Yucheng Tang**, Riqiang Gao, Ho Hin Lee, Brent V. Savoie, Ilwoo Lyu, Shunxing Bao, Yuankai Huo and Bennett A. Landman. "Learning Outlier-robust supervision for Abdominal Organ Segmentation" MICCAI2020 (submission).
15. **Yucheng Tang**, Riqiang Gao, Ho Hin Lee, Quinn Stanton Wells, Ashley Spann, James Gregory Terry, Jeff Carr, Yuankai Huo, Shunxing Bao and Bennett A. Landman. "Prediction of Type II Diabetes Onset with Computed Tomography and Electronic Medical Records" MICCAI2020 (To submission).

Patents:

- Three-Dimensional Segmentation from Two-Dimensional Intracardiac Echocardiography Imaging (US Patent App. 16/130,320)
- Collaborative Volume Completion and Contour Detection System For Intracardiac. (US Patent App. 62/634,935)

External Service

Journal Reviewing:

TMI IEEE Transactions on Medical Imaging

MEDIA Medical Image Analysis

Conference Reviewing:

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

Student Mentoring

BS, CS	Olivia Tang	Topic: Abdominal Segmentation on Clinical Imaging Archive
BS, CS/Neural Science	Yuchen Xu	Topic: Abdominal Segmentation on Validation of inlier/outlier Data
BS, CS	Yiyuan Yang	Topic: Validation on Splenomegaly with volumetric Measurements
BS, CS/math	Canwen Jiao	Topic: Aorta segmentation and Analysis

Presentation and Talks

Conference Oral Presentation

2020 **SPIE**, Houston, TX, **Title:** Contrast Phase Classification with a Generative Adversarial Network.

2019 **SPIE**, San Diego, CA, **Title:** Improving Splenomegaly Segmentation by Learning from Heterogeneous Multi-Source Labels.

Invited Talk

2019 **12 Sigma Technologies**, **Title:** Toward the practical utilization of quantitative imaging biomarkers: Combining Deep Learning with Anatomical Context Network.