YUMING SUN

200 Ukrop Way, Williamsburg, VA 23185

☐ (312)-723-6333   •   ✉ ysun30@wm.edu

Research Interests

Methodology: statistical machine learning, survival analysis, semi/nonparametric models, feature selection
Application: risk assessment in healthcare, statistical learning for medical imaging

Education

University of Michigan, Ann Arbor, MI
Ph.D. in Biostatistics.   Advisor: Yi Li and Jian Kang   2023
Dissertation Title: Deep Learning for Large-Scale and Complex-Structured Biomedical Data

M.S. in Biostatistics   2019

Sun Yat-sen University, Guangzhou, China
B.Med. in Preventive Medicine   2017

Professional Experience

Assistant Professor
Department of Mathematics, William & Mary, Williamsburg, VA   2023 - present

Research Assistant
Department of Biostatistics, University of Michigan, Ann Arbor, MI   2019 - 2023

Honors and Awards

American Statistical Association Risk Analysis Student Paper Award   2021
Michigan Student Symposium for Interdisciplinary Statistical Sciences Best Poster   2021
Michigan Student Symposium for Interdisciplinary Statistical Sciences ASA Sponsored Award   2021
Department of Biostatistics Outstanding Academic Performance Award   2019
The Medical Scholarship by Daiichi-Sankyo Corporation   2012
Sun Yat-sen University Merit Based Scholarship   2012 - 2016

Publications

Published:
- **Sun, Y.**, Salerno, S., Pan, Z., Yang, E., Sujimongkol, C., Song, J., Wang, X., Han, P., Zeng, D., Kang, J., Christiani, D., and Li, Y. (2023). Assessing the prognostic utility of clinical and radiomic features for COVID-19 patients admitted to ICU: challenges and lessons learned. Harvard Data Science Review in press.

- **Sun, Y.**, Haridas, C., Yang, C. J., Christiani, C. D.,Kang, J. and Li, Y. (2023). Penalized Deep Partially Linear Cox Models with Application to CT Scans of Lung Cancer Patients. Biometrics in press.

- **Sun, Y.**, Salerno, S., He, X., Pan, Z., Yang, E., Sujimongkol, C., Song, J., Wang, X., Han, P., Kang, J., Sjoding, M., Jolly, S., Christiani, D., and Li, Y. (2023) Use of machine learning to assess the prognostic utility of radiomic features for in-hospital COVID-19 mortality. Scientific Reports, 13(1), p.7318.

- **Sun, Y.**, Kang, J., Brummett, C. and Li, Y. (2023). Individualized risk assessment of preoperative opioid use

by interpretable neural network regression. The Annals of Applied Statistics, 17(1), p.434.

- Alvarez, A. A. R., **Sun, Y.**, Kothari, J., Digumarthy, S. R., Byrne, N. M., Li, Y., & Christiani, D. C. (2022). Sex disparities in lung cancer survival rates based on screening status. Lung Cancer, 171, p.115-120.

- Salerno, S., **Sun, Y.**, Morris, E. L., He, X., Li, Y., Pan, Z., Han, P., Kang, J., Sjoding, M. W., and Li, Y. (2021). Comprehensive evaluation of COVID-19 patient short-and long-term outcomes: Disparities in healthcare utilization and post-hospitalization outcomes. PLOS ONE, 16(10), e0258278.

- Noshad, M., Choi, J., **Sun, Y.**, Hero, A., and Dinov, I. D. (2021). A data value metric for quantifying information content and utility. Journal of Big Data, 8(1), p.82.

- Zhang, H., **Sun, Y.**, Zhang, D., Zhang, C., and Chen, G. (2018). Direct medical costs for patients with schizophrenia: a 4-year cohort study from health insurance claims data in Guangzhou city, Southern China. International Journal of Mental Health Systems, 12, p.1-14.

Presentations

SCIENTIFIC MEETINGS

- Invited Presentation, "Penalized Deep Partially Linear Cox Models with Application to CT Scans of Lung Cancer Patients." International Conference on Econometrics and Statistics, Waseda University, Tokyo, Japan, 2023.

- Invited Presentation, "Individualized Risk Assessment of Preoperative Opioid Use by Interpretable Neural Network Regression." American Statistical Association Joint Statistical Meetings, Virtual Event, 2021.

- Contributed Presentation, "Individualized Risk Assessment of Preoperative Opioid Use by Interpretable Neural Network Regression." Spring Meeting, ENAR, International Biometric Society, Virtual Event, 2021.

- Contributed Presentation, "Individualized Risk Assessment of Preoperative Opioid Use by Interpretable Neural Network Regression." Michigan Student Symposium for Interdisciplinary Statistical Sciences, Virtual Event, 2021.

- Contributed Presentation, "SpectrumMap: Advanced Computational Phenotypes." MIDAS Symposium, University of Michigan, Ann Arbor, MI, 2018

SEMINARS

- Invited Presentation, "Penalized Deep Partially Linear Cox Models with Application to CT Scans of Lung Cancer Patients." Department of Mathematics, William & Mary, Williamsburg, VA, 2022.

Teaching

William & Mary * upcoming
*Math 351: Probability & Statistics for Scientists	Fall 2024
*Math 459: Topics in Statistics	Spring 2024
*Math 106: Elementary Probability & Statistics	Spring 2024
Math 106: Elementary Probability & Statistics	Fall 2023

University of Michigan
Biostat 601: Probability And Distribution Theory (Teaching Assistant)	Fall 2018

Service

Department of Mathematics, William & Mary

- Colloquium and Seminar Committee   2023

Department of Biostatistics, University of Michigan

- Faculty Search Committee   2022
- Health Data Science Committee   2020

Referee

- Statistics in Medicine
- BMC Health Services Research
- Journal of Psychosocial Oncology
- Biometrics

Memberships

Institute of Mathematical Statistics   Since 2021
American Statistical Association   Since 2020
International Biometrics Society (Eastern North American Region)   Since 2020