Tongnian Wang

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Education

The University of Texas at San Antonio
Ph.D. in Information Technology *2021-present*
- GPA: 3.92
- Supervisor: Dr. Yuanxiong Guo and Dr. Kim-Kwang Raymond Choo

University of Florida
M.S. in Electrical & Computer Engineering *2019-2021*
- GPA: 3.85

Wuhan University of Science and Technology
B.Eng. in Electronic Information Engineering *2015-2019*

Research Interests

Responsible AI, Machine Learning, Biomedical Informatics

Publications

Journal Publications

Applications of Federated Learning in Mobile Health: Scoping Review.
Tongnian Wang, Yan Du, Yanmin Gong, Kim-Kwang Raymond Choo, and Yuanxiong Guo
***Journal of Medical Internet Research (JMIR)**, 2023.*
(Impact Factor: 7.4; H5-index: 146)

Analyzing the Impact of Personalization on Fairness in Federated Learning for Healthcare.
Tongnian Wang, Kai Zhang, Jiannan Cai, Yanmin Gong, Kim-Kwang Raymond Choo, and Yuanxiong Guo
*Major revision: **Journal of Healthcare Informatics Research (JHIR)**, 2023. (In a final round review)*
(Impact Factor: 4.3)

Conference Proceedings

Enabling Privacy-Preserving Prediction for Length of Stay in ICU-A Multimodal Federated-Learning-based Approach.
Tongnian Wang, Yuanxiong Guo, Kim-Kwang Raymond Choo
*In Proceedings of the 31st European Conference on Information Systems, **ECIS 2023**.*

Analyzing the Impact of Personalization on Fairness in Federated Learning for Healthcare.
Tongnian Wang, Kai Zhang, Jiannan Cai, Yanmin Gong, Kim-Kwang Raymond Choo, and Yuanxiong Guo
*In Proceedings of the Workshop on Ethics and Bias of Artificial Intelligence in Clinical Applications, **ICHI 2023**.*

UTSA-NLP at RadSum23: Multi-modal Retrieval-Based Chest X-Ray Report Summarization.
Tongnian Wang, Xingmeng Zhao, Anthony Rios
*In Proceedings of the 22nd Workshop on Biomedical Language Processing (**BioNLP**), ACL 2023.*

Under Review and In Preparation

FairPFL: Improving Group Fairness in Cross-Silo Federated Learning with Fairness-Aware Personalization.
Tongnian Wang, Yuanxiong Guo, Kim-Kwang Raymond Choo, Yanmin Gong
*Under Review: The IEEE/CVF Conference on Computer Vision and Pattern Recognition, **CVPR 2024**.*

Presentations and Talks

"Analyzing the Impact of Personalization on Fairness in Federated Learning for Healthcare"

- IEEE International Conference on Healthcare Informatics (*ICHI*), Houston, TX 2023

"Enabling Privacy-Preserving Prediction for Length of Stay in ICU-A Multimodal Federated-Learning-based Approach"

- The European Conference on Information Systems (*ECIS*), Kristiansand, Norway 2023
- 2023 INFORMS Annual Meeting, Phoenix, AZ 2023
- SURF Conference, San Antonio, TX 2023

"UTSA-NLP at RadSum23: Multi-modal Retrieval-Based Chest X-Ray Report Summarization"

- 2023 Annual Meeting of the Association for Computational Linguistics (*ACL*), Toronto, Canada 2023
- Los Datos Conference, San Antonio, TX 2023

Teaching Experience

Spring 2024 **IS 2053 *Programming Languages I with Scripting***, Instructor
- Class size: x
- Overall Rating of Instructor Evaluation: x/5.0
- Overall Rating of Course Evaluation: x/5.0

Awards & Honors

2023 **BioNLP Shared Task 1B, *2nd Place***, ACL 2023
Ph.D. Excellence Fund Awards, UTSA Carlos Alvarez College of Business
Graduate School Professional Development Awards, UTSA

2020 **Achievement Award Scholarship**, UF Herbert Wertheim College of Engineering

2019 **Achievement Award Scholarship**, UF Herbert Wertheim College of Engineering

Professional Services & Activities

Reviewer

2023 ACM Transactions on Knowledge Discovery from Data
Journal of Medical Internet Research (JMIR)
JMIR Public Health and Surveillance
JMIR Formative Research
JMIR AI
Operations Research for Health Care

Membership

2023- Association for Information Systems (AIS)
INFORMS
IEEE

Mentoring

09/2023 - present
Tianyuan Zheng, PhD Student, UTSA
Project: Explore fairness in federated learning.

Technical Skills

Computer Languages: Python, R, Java, Git, LaTex.

Databases: MySQL, PostgreSQL.

Machine Learning: Pytorch/TensorFlow, NLP.

Data Science: Pandas, Scikit-learn, Scipy, Matplotlib.

Systems/Hardware: Ubuntu, GPU (Nvidia), CUDA.

References

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Kim-Kwang Raymond Choo
Professor & Cloud Technology Endowed Professorship
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