




Feng Xie

Postdoctoral Scholar, Anesthesiology, Perioperative and Pain Medicine

 Resume available Online

Bio

BIO

Feng Xie is currently a postdoctoral scholar at Stanford University School of Medicine, and he recently graduated with a joint Ph.D. degree from Duke University and the National University of Singapore. He previously obtained his bachelor's degree from Tsinghua University, Beijing, China, in 2017. During his Ph.D. study, he utilized interpretable machine learning tools in acute and emergency care settings and published six first-author research papers in high-impact journals. Specifically, he developed a novel informatics framework called AutoScore, which automatically generates interpretable clinical scores from electronic health records. This open-source software package has been used by local and international researchers, downloaded about 400 times per month from the CRAN platform, and the first paper published in 2020 has garnered around 40 citations. His research interests include machine learning, clinical informatics and decision-making, predictive models, electronic health records, and risk stratification in acute care settings.

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Student Editorial Board, Journal of Biomedical Informatics (2022 - present)
- Reviewer, EBioMedicine (by The Lancet) (2022 - present)
- Reviewer, Patterns (by Cell Press) (2022 - present)
- Reviewer, BMC Medical Research Methodology (2022 - present)
- Reviewer, International Conference on Health Informatics (ICHI) (2023 - present)
- Reviewer, BMC Medical Informatics and Decision Making (2022 - present)
- Reviewer, International Journal of Medical Informatics (2022 - present)
- Reviewer, Mathematical Biosciences and Engineering (2023 - present)
- Reviewer, Scientific Report (2022 - present)
- Reviewer, AMIA Annual Symposium (2020 - 2022)
- Reviewer, PLOS ONE (2019 - 2022)

PROFESSIONAL EDUCATION

- Doctor of Philosophy, National University Of Singapore (2022)
- Bachelor of Science, Tsinghua University (2017)
- PhD, National University of Singapore / Duke University (2022)
- Bachelor of Science, Tsinghua University (2017)

STANFORD ADVISORS

- Nima Aghaeepour, Postdoctoral Faculty Sponsor

LINKS

- Google Scholar: https://scholar.google.com/citations?user=_lCrZBkAAAAJ&hl=en
- Research Gate: https://www.researchgate.net/profile/Feng_Xie34
- LinkedIn: <https://www.linkedin.com/in/feng-xie-0b6350b8/>
- Twitter: https://twitter.com/fengx_thu

Research & Scholarship

RESEARCH INTERESTS

- Data Sciences
- Research Methods

LAB AFFILIATIONS

- Nima Aghaeepour, Aghaeepour Laboratory (9/19/2022)

Publications

PUBLICATIONS

- **AutoScore-Ordinal: an interpretable machine learning framework for generating scoring models for ordinal outcomes.** *BMC medical research methodology*
Saffari, S. E., Ning, Y., Xie, F., Chakraborty, B., Volovici, V., Vaughan, R., Ong, M. E., Liu, N.
2022; 22 (1): 286
- **Benchmarking emergency department prediction models with machine learning and public electronic health records.** *Scientific data*
Xie, F., Zhou, J., Lee, J. W., Tan, M., Li, S., Rajnithern, L. S., Chee, M. L., Chakraborty, B., Wong, A. I., Dagan, A., Ong, M. E., Gao, F., Liu, et al
2022; 9 (1): 658
- **An external validation study of the Score for Emergency Risk Prediction (SERP), an interpretable machine learning-based triage score for the emergency department.** *Scientific reports*
Yu, J. Y., Xie, F., Nan, L., Yoon, S., Ong, M. E., Ng, Y. Y., Cha, W. C.
2022; 12 (1): 17466
- **A novel interpretable machine learning system to generate clinical risk scores: An application for predicting early mortality or unplanned readmission in a retrospective cohort study.** *PLOS digital health*
Ning, Y., Li, S., Ong, M. E., Xie, F., Chakraborty, B., Ting, D. S., Liu, N.
2022; 1 (6): e0000062
- **Development and validation of an interpretable clinical score for early identification of acute kidney injury at the emergency department** *SCIENTIFIC REPORTS*
Ang, Y., Li, S., Ong, M., Xie, F., Teo, S., Choong, L., Koniman, R., Chakraborty, B., Ho, A., Liu, N.
2022; 12 (1): 7111
- **AutoScore-Imbalance: An interpretable machine learning tool for development of clinical scores with rare events data** *JOURNAL OF BIOMEDICAL INFORMATICS*
Yuan, H., Xie, F., Ong, M., Ning, Y., Chee, M., Saffari, S., Abdullah, H., Goldstein, B., Chakraborty, B., Liu, N.
2022; 129: 104072
- **Development and validation of an interpretable machine learning scoring tool for estimating time to emergency readmissions** *ECLINICALMEDICINE*
Xie, F., Liu, N., Yan, L., Ning, Y., Lim, K., Gong, C., Kwan, Y., Ho, A., Low, L., Chakraborty, B., Ong, M.
2022; 45: 101315
- **Leveraging Large-Scale Electronic Health Records and Interpretable Machine Learning for Clinical Decision Making at the Emergency Department: Protocol for System Development and Validation** *JMIR RESEARCH PROTOCOLS*
Liu, N., Xie, F., Siddiqui, F., Ho, A., Chakraborty, B., Nadarajan, G., Tan, K., Ong, M.
2022; 11 (3): e34201

- **Deep learning for temporal data representation in electronic health records: A systematic review of challenges and methodologies** *JOURNAL OF BIOMEDICAL INFORMATICS*
Xie, F., Yuan, H., Ning, Y., Ong, M., Feng, M., Hsu, W., Chakraborty, B., Liu, N.
2022; 126: 103980
- **External validation of the Survival After ROSC in Cardiac Arrest (SARICA) score for predicting survival after return of spontaneous circulation using multinational pan-asian cohorts.** *Frontiers in medicine*
Rajendram, M. F., Zarisfi, F., Xie, F., Shahidah, N., Pek, P. P., Yeo, J. W., Tan, B. Y., Ma, M., Do Shin, S., Tanaka, H., Ong, M. E., Liu, N., Ho, et al
2022; 9: 930226
- **AutoScore-Survival: Developing interpretable machine learning-based time-to-event scores with right-censored survival data** *JOURNAL OF BIOMEDICAL INFORMATICS*
Xie, F., Ning, Y., Yuan, H., Goldstein, B., Ong, M., Liu, N., Chakraborty, B.
2022; 125: 103959
- **Development and Assessment of an Interpretable Machine Learning Triage Tool for Estimating Mortality After Emergency Admissions** *JAMA NETWORK OPEN*
Xie, F., Ong, M., Liew, J., Tan, K., Ho, A., Nadarajan, G., Low, L., Kwan, Y., Goldstein, B., Matchar, D., Chakraborty, B., Liu, N.
2021; 4 (8): e2118467
- **AutoScore: A Machine Learning-Based Automatic Clinical Score Generator and Its Application to Mortality Prediction Using Electronic Health Records** *JMIR MEDICAL INFORMATICS*
Xie, F., Chakraborty, B., Ong, M., Goldstein, B., Liu, N.
2020; 8 (10): e21798
- **Heart rate n-variability (HRnV) and its application to risk stratification of chest pain patients in the emergency department.** *BMC cardiovascular disorders*
Liu, N. n., Guo, D. n., Koh, Z. X., Ho, A. F., Xie, F. n., Tagami, T. n., Sakamoto, J. T., Pek, P. P., Chakraborty, B. n., Lim, S. H., Tan, J. W., Ong, M. E.
2020; 20 (1): 168
- **Novel model for predicting inpatient mortality after emergency admission to hospital in Singapore: retrospective observational study** *BMJ OPEN*
Xie, F., Liu, N., Wu, S., Ang, Y., Low, L., Ho, A., Lam, S., Matchar, D., Ong, M., Chakraborty, B.
2019; 9 (9): e031382