Stanford



Fateme (Fatima) Nateghi

Postdoctoral Scholar, Biomedical Informatics

Bio

BIO

As a postdoc researcher at the Division of Computational Medicine, I find myself at the exciting intersection of machine learning and healthcare. My journey began with a PhD in Biomedical Sciences from KU Leuven in Belgium, where I explored the complexities of machine learning algorithms and their transformative potential in clinical settings. My research focused on adapting these algorithms for time-to-event data, a method used to predict when specific events may occur in a patient's future.

At Stanford, my work centers on building trustworthy AI systems to enhance healthcare delivery. I develop and evaluate machine learning models that integrate structured electronic health records (EHRs) and unstructured clinical notes to support real-world clinical decision-making. My recent projects include predicting treatment retention in opioid use disorder, improving antibiotic stewardship for urinary tract infections, and enabling digital consultations through large language models (LLMs). I'm particularly interested in embedding-based retrieval and retrieval-augmented generation (RAG) methods that help bridge cutting-edge AI research with clinical practice.

My role involves not just advancing the integration of machine learning in healthcare but also collaborating with a diverse team of clinicians, data scientists, and engineers. Together, we're striving to unravel complex healthcare challenges and ultimately improve patient outcomes.

PROFESSIONAL EDUCATION

- PhD, KU Leuven , Biomedical sciences (2023)

STANFORD ADVISORS

- Jonathan Chen, Postdoctoral Faculty Sponsor

LINKS

- Personal Site: https://fatemenateghi.github.io/
- LinkedIn: https://www.linkedin.com/in/fateme-nateghi
- Google Scholar: https://scholar.google.com/citations?user=qg4JyOkAAAAJ&hl=en

Publications

PUBLICATIONS

- **Toward a test of medical AI superintelligence.** *Nature medicine*
  Goh, E., Wu, D., Walton, C., McCoy, L. G., Perez, A., Wegner, L., Nateghi Haredasht, F., Luo, L., Lacar, K., Buckley, T., Schoeffler, A., Brodeur, P., Black, et al

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- **Quantization-aware matrix factorization for low bit rate image compression** *INFORMATION SCIENCES*
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  2026; 722

- **Holistic evaluation of large language models for medical tasks with MedHELM.** *Nature medicine*
  Bedi, S., Cui, H., Fuentes, M., Unell, A., Wornow, M., Banda, J. M., Kotecha, N., Keyes, T., Mai, Y., Oez, M., Qiu, H., Jain, S., Schettini, et al
  2026

- **Session Introduction: AI and Machine Learning in Clinical Medicine: Generative and Interactive Systems at the Human-Machine Interface.** *Pacific Symposium on Biocomputing. Pacific Symposium on Biocomputing*
  Nateghi Haredasht, F., Kim, D., Romano, J. D., Tison, G., Daneshjou, R., Chen, J. H.
  2025; 30: 33-39

- **Predicting treatment retention in medication for opioid use disorder: a machine learning approach using NLP and LLM-derived clinical features.** *Journal of the American Medical Informatics Association : JAMIA*
  Nateghi Haredasht, F., Lopez, I., Tate, S., Ashtari, P., Chan, M. M., Kulkarni, D., Chen, C. A., Vangala, M., Griffith, K., Bunning, B., Miner, A. S., Hernandez-Boussard, T., Humphreys, et al
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- **Antibiotic Resistance Microbiology Dataset (ARMD): A Resource for Antimicrobial Resistance from EHRs.** *Scientific data*
  Nateghi Haredasht, F., Amrollahi, F., Maddali, M. V., Marshall, N., Ma, S. P., Cooper, L. N., Johnson, A. O., Wei, Z., Medford, R. J., Kanjilal, S., Banaei, N., Deresinski, S., Goldstein, et al
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- **Clinical entity augmented retrieval for clinical information extraction.** *NPJ digital medicine*
  Lopez, I., Swaminathan, A., Vedula, K., Narayanan, S., Nateghi Haredasht, F., Ma, S. P., Liang, A. S., Tate, S., Maddali, M., Gallo, R. J., Shah, N. H., Chen, J. H.
  2025; 8 (1): 45

- **Predictability of buprenorphine-naloxone treatment retention: A multi-site analysis combining electronic health records and machine learning.** *Addiction (Abingdon, England)*
  Nateghi Haredasht, F., Fouladvand, S., Tate, S., Chan, M. M., Yeow, J. J., Griffiths, K., Lopez, I., Bertz, J. W., Miner, A. S., Hernandez-Boussard, T., Chen, C. A., Deng, H., Humphreys, et al
  2024

- **Improving 1-Year Mortality Prediction After Pediatric Heart Transplantation Using Hypothetical Donor-Recipient Matches** *IEEE ACCESS*
  Venturini, M., Haredasht, F., Sabovcik, F., Miller, R. J. H., Kuznetsova, T., Vens, C.
  2024; 12: 89754-89762

- **Exploiting Censored Information in Self-Training for Time-to-Event Prediction** *IEEE ACCESS*
  Haredasht, F., Dauda, K., Vens, C.
  2023; 11: 96831-96840