Stanford

Nigam H. Shah, MBBS, PhD

Professor of Medicine (Computational Medicine), of Biomedical Data Science and, by courtesy, of Computer Science

Bio

BIO

Dr. Nigam Shah is Professor of Medicine at Stanford University, and Chief Data Scientist for Stanford Health Care. His research group analyzes multiple types of health data (EHR, Claims, Wearables, Weblogs, and Patient blogs), to answer clinical questions, generate insights, and build predictive models for the learning health system. At Stanford Healthcare, he leads artificial intelligence and data science efforts for advancing the scientific understanding of disease, improving the practice of clinical medicine and orchestrating the delivery of health care.

Dr. Shah is an inventor on eight patents and patent applications, has authored over 200 scientific publications and has co-founded three companies. Dr. Shah was elected into the American College of Medical Informatics (ACMI) in 2015 and was inducted into the American Society for Clinical Investigation (ASCI) in 2016. He holds an MBBS from Baroda Medical College, India, a PhD from Penn State University and completed postdoctoral training at Stanford University.

ACADEMIC APPOINTMENTS

- Professor, Computational Medicine
- Professor, Department of Biomedical Data Science
- Professor (By courtesy), Computer Science
- Member, Bio-X
- Member, Cardiovascular Institute
- Faculty Affiliate, Institute for Human-Centered Artificial Intelligence (HAI)
- Member, Wu Tsai Human Performance Alliance
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Chief Data Scientist, Stanford Healthcare, (2022- present)
- Co-director, Center for Artificial Intelligence in Medicine & Imaging (AIMI), (2020- present)
- Associate Dean for Research, School of Medicine, (2019- present)
- Associate Director, Stanford Center for Biomedical Research (BMIR), (2013- present)
- Director, Informatics Core, Stanford Center for Clinical and Translational Research, and Education (Spectrum), (2017-2022)

- Associate CIO, Data Science, Stanford Healthcare, (2018-2022)
- Executive Committee Member, Biomedical Informatics Graduate Program, (2011-2021)
- Member, Cancer Institute Informatics Steering Committee, (2011-2015)
- Scientific Program Chair, AMIA Summit on Translational Bioinformatics, (2011-2012)
- Advisory Committee Member, Stanford Center for Clinical Informatics, (2011-2012)

HONORS AND AWARDS

- Fellow, American College of Medical Informatics (11/2015)
- New Investigator Award, American Medical Informatics Association (AMIA) (11/2013)
- Biosciences Faculty Award recognizing outstanding teaching contributions, Stanford School of Medicine (06/2012)
- Fellow, American Society for Clinical Investigation (04/2016)
- Ramoni Best paper award, AMIA Summit on Translational Bioinformatics (03/2013)
- Distinguished paper award, AMIA Summit on Translational Bioinformatics (03/2011)
- Outstanding paper award, AMIA Summit on Translational Bioinformatics (03/2009)
- Outstanding paper award, Summit on Translational Bioinformatics (03/2008)

PROFESSIONAL EDUCATION

- Postdoctoral, Stanford University , Biomedical Informatics (2007)
- PhD, The Pennsylvania State University , Molecular Medicine (2005)
- MBBS, Baroda Medical College , Medicine (1999)

LINKS

- Lab site: http://shahlab.stanford.edu/
- Personal site: https://web.stanford.edu/~nigam/
- ADRC: http://med.stanford.edu/adrc.html

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

In the past, we have developed methods to analyze multiple datatypes for generating insights. Such as: Detecting skin adverse reactions by analyzing content in a health social network, enabling medical device surveillance, discovering drug adverse events as well as drug-drug interactions from clinical notes using novel methods for processing textual documents. Inferring physical function from wearables data, predicting healthcare utilization from Web search logs and understanding information seeking behavior of health professionals.

Our current research is focused on bringing AI into clinical use, safely, ethically and cost effectively. Research on Responsible AI (https://rail.stanford.edu/) is translated into practice by the Data Science team at Stanford Healthcare. This work is organized in two broad work-streams.

(1) Creation and adoption of foundation models in medicine: Given the high interest in using large language models (LLMs) in medicine, the creation and use of LLMs in medicine needs to be actively shaped by provisioning relevant training data, specifying the desired benefits, and evaluating the benefits via testing in real-world deployments.

(2) Making machine learning models clinically useful: Whether a classifier or prediction model is useful in guiding care depends on the interplay between the model's output, the intervention it triggers, and the intervention's benefits and harms. Our work stemmed from the effort in improving palliative care using machine learning. Blog posts at HAI summarize our work in easily accessible manner.

Teaching

COURSES

2025-26

- Data Driven Medicine: CIM 213 (Spr)
- Data Science for Medicine: BMDS 215 (Aut)
- Healthcare Technology Operations Management: BMDS 284 (Aut, Spr)

2024-25

- Data Driven Medicine: CIM 213 (Spr)
- Data Science for Medicine: BIOMEDIN 215 (Aut)

2023-24

- Data Driven Medicine: BIOMEDIN 225 (Spr)
- Data Science for Medicine: BIOMEDIN 215 (Aut)

2022-23

- Data Driven Medicine: BIOMEDIN 225 (Win)
- Data Science for Medicine: BIOMEDIN 215 (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Oana Enache

Postdoctoral Faculty Sponsor

Francois Grolleau, Brenna Li

Doctoral Dissertation Advisor (AC)

Suhana Bedi, Akshay Swaminathan

Doctoral Dissertation Co-Advisor (AC)

Bridget Lin

Doctoral (Program)

Alyssa Unell, Ryan Welch

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biomedical Data Science (Phd Program)
- Biomedical Data Science (Masters Program)

Publications

PUBLICATIONS

- **AI, Health, and Health Care Today and Tomorrow: The JAMA Summit Report on Artificial Intelligence.** *JAMA*

Angus, D. C., Khera, R., Lieu, T., Liu, V., Ahmad, F. S., Anderson, B., Bhavani, S. V., Bindman, A., Brennan, T., Celi, L. A., Chen, F., Cohen, I. G., Denniston, et al
2025

- **Testing and Evaluation of Health Care Applications of Large Language Models: A Systematic Review.** *JAMA*
  Bedi, S., Liu, Y., Orr-Ewing, L., Dash, D., Koyejo, S., Callahan, A., Fries, J. A., Wornow, M., Swaminathan, A., Lehmann, L. S., Hong, H. J., Kashyap, M., Chaurasia, et al
  2024

- **External validation of AI models in health should be replaced with recurring local validation.** *Nature medicine*
  Youssef, A., Pencina, M., Thakur, A., Zhu, T., Clifton, D., Shah, N. H.
  2023

- **The Stanford Medicine data science ecosystem for clinical and translational research.** *JAMIA open*
  Callahan, A., Ashley, E., Datta, S., Desai, P., Ferris, T. A., Fries, J. A., Halaas, M., Langlotz, C. P., Mackey, S., Posada, J. D., Pfeffer, M. A., Shah, N. H.
  2023; 6 (3): ooad054

- **Creation and Adoption of Large Language Models in Medicine.** *JAMA*
  Shah, N. H., Entwistle, D., Pfeffer, M. A.
  2023

- **The shaky foundations of large language models and foundation models for electronic health records.** *NPJ digital medicine*
  Wornow, M., Xu, Y., Thapa, R., Patel, B., Steinberg, E., Fleming, S., Pfeffer, M. A., Fries, J., Shah, N. H.
  2023; 6 (1): 135

- **Discrepancies Between Clearance Summaries and Marketing Materials of Software-Enabled Medical Devices Cleared by the US Food and Drug Administration.** *JAMA network open*
  Shah, N. H., Mello, M. M.
  2023; 6 (7): e2321753

- **DEPLOYR: a technical framework for deploying custom real-time machine learning models into the electronic medical record.** *Journal of the American Medical Informatics Association : JAMIA*
  Corbin, C. K., Maclay, R., Acharya, A., Mony, S., Punnathanam, S., Thapa, R., Kotecha, N., Shah, N. H., Chen, J. H.
  2023

- **EHR foundation models improve robustness in the presence of temporal distribution shift.** *Scientific reports*
  Guo, L. L., Steinberg, E., Fleming, S. L., Posada, J., Lemmon, J., Pfohl, S. R., Shah, N., Fries, J., Sung, L.
  2023; 13 (1): 3767

- **A framework to identify ethical concerns with ML-guided care workflows: a case study of mortality prediction to guide advance care planning.** *Journal of the American Medical Informatics Association : JAMIA*
  Cagliero, D., Deuitch, N., Shah, N., Feudtner, C., Char, D.
  2023

- **Assessing the net benefit of machine learning models in the presence of resource constraints.** *Journal of the American Medical Informatics Association : JAMIA*
  Singh, K., Shah, N. H., Vickers, A. J.
  2023

- **Clinical utility gains from incorporating comorbidity and geographic location information into risk estimation equations for atherosclerotic cardiovascular disease.** *Journal of the American Medical Informatics Association : JAMIA*
  Xu, Y., Foryciarz, A., Steinberg, E., Shah, N. H.
  2023

- **APLUS: A Python Library for Usefulness Simulations of Machine Learning Models in Healthcare.** *Journal of biomedical informatics*
  Wornow, M., Gyang Ross, E., Callahan, A., Shah, N. H.
  2023: 104319

- **Investigating real-world consequences of biases in commonly used clinical calculators.** *The American journal of managed care*
  Yoo, R. M., Dash, D., Lu, J. H., Genkins, J. Z., Rabbani, N., Fries, J. A., Shah, N. H.

2023; 29 (1): e1-e7

- **Co-intelligence: a proposal for human-artificial intelligence collaboration for large language models in medical research.** *The Lancet. Digital health*
  Ong, A. Y., Merle, D. A., Shah, N. H., Tham, Y. C., Wong, T. Y., Keane, P. A.
  2026: 100982

- **Why and How to Monitor Deployed AI Systems in Health Care** *NEJM CATALYST INNOVATIONS IN CARE DELIVERY*
  Keyes, T., Callahan, A., Pandya, A. S., Ambers, N., Banda, J. M., Fuentes, M., Lugtu, C., Masariya, P., Nallan, S., O'Brien, C., Wang, T., Alsentzer, E., Chen, et al
  2026; 7 (6)

- **Physician-Reported Safety Outcomes of AI-Generated Hospital Course Summaries.** *JAMA network open*
  Grolleau, F., Liang, A. S., Keyes, T., Ma, S. P., Lew, T., Huynh, T. R., Steele, N., Chung, P., Qin, P., Chandra, G., Wang, S. F., Mullen, E., Carpenter, et al
  2026; 9 (5): e2616556

- **A clinical environment simulator for dynamic AI evaluation.** *Nature medicine*
  Luo, L., Kim, S. E., Zhang, X., Kernbach, J. M., Kenia, R., Acosta, J. N., Nathanson, L. A., Haimovich, A. D., Rodman, A., Goh, E., Chen, J. H., Shah, N. H., Kim, et al
  2026

- **Merlin: a computed tomography vision-language foundation model and dataset.** *Nature*
  Blankemeier, L., Kumar, A., Cohen, J. P., Liu, J., Liu, L., Van Veen, D., Gardezi, S. J., Yu, H., Paschali, M., Chen, Z., Delbrouck, J. B., Reis, E., Holland, et al
  2026

- **MedFactEval and MedAgentBrief: A Framework and Workflow for Generating and Evaluating Factual Clinical Summaries.** *Pacific Symposium on Biocomputing. Pacific Symposium on Biocomputing*
  Grolleau, F., Alsentzer, E., Keyes, T., Chung, P., Swaminathan, A., Aali, A., Hom, J., Huynh, T., Lew, T., Liang, A., Chu, W., Steele, N., Lin, et al
  2026; 31: 388-399

- **PRIMARY-AI: outcomes-based standards to safeguard primary care in the AI era.** *Nature medicine*
  Zeng, D., Car, L. T., Khunti, K., Liu, Y., Bärnighausen, T., Chavannes, N. H., Keane, P. A., Kunz, H., Xue, L., Sung, J. J., Tham, Y. C., Righetto, L., Sarker, et al
  2026

- **Bridging the Gap: Consensus-Based Considerations for AI Usefulness in Healthcare.** *The American journal of bioethics : AJOB*
  Salwei, M. E., Morse, K., Saria, S., Shah, N. H., Bedoya, A., Beyer, M., Munoz Del Rio, A., Chornenky, D., Lin, A., Ruparel, S., Kortsch, D., Barbarooah, P., Hanger, et al
  2026; 26 (2): 1-6

- **A deep learning-based automated pipeline for colorectal cancer detection in contrast-enhanced CT images.** *Computerized medical imaging and graphics : the official journal of the Computerized Medical Imaging Society*
  Qiu, C., Miller, S., Subramanian, B., Ryu, A., Zhang, H., Fisher, G. A., Shah, N. H., Mongan, J., Langlotz, C., Poullos, P., Shen, J.
  2026; 128: 102717

- **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

- **How to interpret 'zero-shot' results from generative EHR models.** *Nature medicine*
  Bedi, S., Fries, J. A., Shah, N. H.
  2026

- **QUEST-AI: A System for Question Generation, Verification, and Refinement using AI for USMLE-Style Exams.** *Pacific Symposium on Biocomputing. Pacific Symposium on Biocomputing*
  Bedi, S., Fleming, S. L., Chiang, C. C., Morse, K., Kumar, A., Patel, B., Jindal, J. A., Davenport, C., Yamaguchi, C., Shah, N. H.
  2025; 30: 54-69

- **Catalyzing Health AI by Fixing Payment Systems.** *NEJM AI*
  Razavian, N., Batchu-Green, P., Chowdhry, V., Elemento, O., Rajpurkar, P., Saria, S., Shah, N. H., Topol, E. J.

2025; 2 (12)

- **Evaluating transparency in AI/ML model characteristics for FDA-reviewed medical devices.** *NPJ digital medicine*
  Mehta, V., Komanduri, A., Bhadouriya, R. S., Mehta, V., Johnson, M. D., Shrestha, P., Nikolov, M., Jain, B., Shah, N., Schulman, K.
  2025; 8 (1): 673
- **STARC-9: A Large-scale Dataset for Multi-Class Tissue Classification for CRC Histopathology.** *ArXiv*
  Subramanian, B., Jeyaraj, R., Peterson, M. N., Guo, T., Shah, N., Langlotz, C., Ng, A. Y., Shen, J.
  2025
- **Target Product Profile to Evaluate the Clinical Utility, Financial Impact, and Ethical Implications of an AI-Based HCM Detection Model**
  Parsa, S., Keyes, T., Dash, D., Mello, M., Salisbury, H., Callahan, A., Goto, S., Salerno, M., Parikh, V., Mahaffey, K., Ashley, E., Shah, N., Jain, et al
  LIPPINCOTT WILLIAMS & WILKINS.2025
- **Physician Perspectives on Large Language Models in Healthcare: A Cross-Sectional Survey Study.** *Applied clinical informatics*
  Hong, H. J., Shah, N., Pfeffer, M. A., Lehmann, L. S.
  2025
- **Evaluating Treatment Prioritization Rules via Rank-Weighted Average Treatment Effects.** *Journal of the American Statistical Association*
  Yadlowsky, S., Fleming, S., Shah, N., Brunskill, E., Wager, S.
  2025; 120 (549): 38-51
- **Generative artificial intelligence in medicine.** *Nature medicine*
  Teo, Z. L., Thirunavukarasu, A. J., Elangovan, K., Cheng, H., Moova, P., Soetikno, B., Nielsen, C., Pollreisz, A., Ting, D. S., Morris, R. J., Shah, N. H., Langlotz, C. P., Ting, et al
  2025
- **TIMER: temporal instruction modeling and evaluation for longitudinal clinical records.** *NPJ digital medicine*
  Cui, H., Unell, A., Chen, B., Fries, J. A., Alsentzer, E., Koyejo, S., Shah, N. H.
  2025; 8 (1): 577
- **Key takeaways from Stanford's symposium on AI for Data Science.** *Journal of clinical and translational science*
  Desai, M., Auerbach, J., Baker, L., Benjamin-Chung, J., Bondy, M., Boulos, M., Bunning, B. J., Deng, N., Goodman, S. N., Horn, I., Linos, E., Musen, M. A., Sanders, et al
  2025; 9 (1): e237
- **Key takeaways from Stanford's symposium on AI for Data Science** *JOURNAL OF CLINICAL AND TRANSLATIONAL SCIENCE*
  Desai, M., Auerbach, J., Baker, L., Benjamin-Chung, J., Bondy, M., Boulos, M., Bunning, B. J., Deng, N., Goodman, S. N., Horn, I., Linos, E., Musen, M. A., Sanders, et al
  2025; 9 (1)
- **Approach to the Postmarket Evaluation of Consumer Wearable Technologies.** *JAMA cardiology*
  Pundi, K., Bhavnani, S., Seninger, C., Zuckerman, B., Paulsen, J., Aguel, F., Din, N., Viggiano, B., Yoo, R. M., Dalal, N., Go, A. S., Granger, C., Krumholz, et al
  2025
- **Fidelity of Medical Reasoning in Large Language Models.** *JAMA network open*
  Bedi, S., Jiang, Y., Chung, P., Koyejo, S., Shah, N.
  2025; 8 (8): e2526021
- **Differential reasoning and chain-of-thought processes in Deepseek-R1 and Open AI o3-mini-high for determining American Society of Anesthesiologists physical status.** *British journal of anaesthesia*
  Ke, Y. H., Leong, Y. H., Jin, L., Elangovan, K., Abdullah, H. R., Sia, A. T., Ong, J. C., Shah, N. H., Wong, T. Y., Wei Ting, D. S.
  2025
- **International partnership for governing generative artificial intelligence models in medicine.** *Nature medicine*
  Ong, J. C., Ning, Y., Collins, G. S., Bitterman, D. S., Beecy, A. N., Chang, R. T., Denniston, A. K., Freyer, O., Gilbert, S., de Hond, A., Leeuwenberg, A. M., Zhao, L., Lim, et al
  2025
- **Feasibility of Automated Precharting using GPT-4 in New Specialty Referrals.** *AMIA Joint Summits on Translational Science proceedings. AMIA Joint Summits on Translational Science*

Liang, A. S., Banda, J. M., Savage, T., Pandya, A., Carey, R., Megwalu, U. C., Chang, M. T., Dash, D., Corbin, C. K., Sharma, A., Thapa, R., Kotecha, N., Shah, et al
2025; 2025: 312-321

- **Answering real-world clinical questions using large language model, retrieval-augmented generation, and agentic systems.** *Digital health*
Low, Y. S., Jackson, M. L., Hyde, R. J., Brown, R. E., Sanghavi, N. M., Baldwin, J. D., Pike, C. W., Muralidharan, J., Hui, G., Alexander, N., Hassan, H., Nene, R. V., Pike, et al
2025; 11: 20552076251348850

- **AI in Health Care: The Leadership Role of Board-Certified Clinical Informaticists.** *Applied clinical informatics*
Morse, K. E., Pageler, N. M., Shah, N. H., Townsend, T., Sharp, C., Pfeffer, M. A.
2025; 16 (3): 612-613

- **QUEST-AI: A System for Question Generation, Verification, and Refinement using AI for USMLE-Style Exams.** *Pacific Symposium on Biocomputing. Pacific Symposium on Biocomputing*
Bedi, S., Fleming, S. L., Chiang, C. C., Morse, K., Kumar, A., Patel, B., Jindal, J. A., Davenport, C., Yamaguchi, C., Shah, N. H.
2025; 30: 54-69

- **Time-to-Event Pretraining for 3D Medical Imaging.** *... International Conference on Learning Representations*
Huo, Z., Fries, J. A., Lozano, A., Valanarasu, J. M., Steinberg, E., Blankemeier, L., Chaudhari, A. S., Langlotz, C., Shah, N. H.
2025; 2025: 100815-100851

- **Time-to-Event Pretraining for 3D Medical Imaging.** *... International Conference on Learning Representations*
Huo, Z., Fries, J. A., Lozano, A., Valanarasu, J. M., Steinberg, E., Blankemeier, L., Chaudhari, A. S., Langlotz, C., Shah, N. H.
2025; 2025: 100815-100851

- **Reformulating patient stratification for targeting interventions by accounting for severity of downstream outcomes resulting from disease onset: a case study in sepsis.** *Journal of the American Medical Informatics Association : JAMIA*
Kamran, F., Tjandra, D., Valley, T. S., Prescott, H. C., Shah, N. H., Liu, V. X., Horvitz, E., Wiens, J.
2025

- **Red teaming ChatGPT in medicine to yield real-world insights on model behavior.** *NPJ digital medicine*
Chang, C. T., Farah, H., Gui, H., Rezaei, S. J., Bou-Khalil, C., Park, Y. J., Swaminathan, A., Omiye, J. A., Kolluri, A., Chaurasia, A., Lozano, A., Heiman, A., Jia, et al
2025; 8 (1): 149

- **Against reflexive recalibration: towards a causal framework for addressing miscalibration.** *Diagnostic and prognostic research*
Swaminathan, A., Srivastava, U., Tu, L., Lopez, I., Shah, N. H., Vickers, A. J.
2025; 9 (1): 4

- **Artificial Intelligence In Health And Health Care: Priorities For Action.** *Health affairs (Project Hope)*
Matheny, M. E., Goldsack, J. C., Saria, S., Shah, N. H., Gerhart, J., Cohen, I. G., Price, W. N., Patel, B., Payne, P. R., Embí, P. J., Anderson, B., Horvitz, E.
2025: 101377hlthaff202401003

- **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

- **Toward expert-level medical question answering with large language models.** *Nature medicine*
Singhal, K., Tu, T., Gottweis, J., Sayres, R., Wulczyn, E., Amin, M., Hou, L., Clark, K., Pfohl, S. R., Cole-Lewis, H., Neal, D., Rashid, Q. M., Schaekermann, et al
2025

- **From Better Models to Better Care.** *JACC. Heart failure*
Shah, N. H., Jain, S. S.
2025; 13 (1): 88-90

- **FactEHR: A Dataset for Evaluating Factuality in Clinical Notes Using LLMs**
Munnangi, M., Swaminathan, A., Fries, J., Jindal, J., Narayanan, S., Lopez, I., Tu, L., Chung, P., Omiye, J. A., Kashyap, M., Shah, N.

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JMLR-JOURNAL MACHINE LEARNING RESEARCH.2025

- **STARC-9: A Large-scale Dataset for Multi-Class Tissue Classification for CRC Histopathology.** *Advances in neural information processing systems*
  Subramanian, B., Jeyaraj, R., Peterson, M. N., Guo, T., Shah, N., Langlotz, C., Ng, A. Y., Shen, J.
  2025; 38

- **STARC-9: A Large-scale Dataset for Multi-Class Tissue Classification for CRC Histopathology.** *Advances in neural information processing systems*
  Subramanian, B., Jeyaraj, R., Peterson, M. N., Guo, T., Shah, N., Langlotz, C., Ng, A. Y., Shen, J.
  2025; 38

- **Feasibility of Automated Precharting using GPT-4 in New Specialty Referrals.** *AMIA Joint Summits on Translational Science proceedings. AMIA Joint Summits on Translational Science*
  Liang, A. S., Banda, J. M., Savage, T., Pandya, A., Carey, R., Megwalu, U. C., Chang, M. T., Dash, D., Corbin, C. K., Sharma, A., Thapa, R., Kotecha, N., Shah, et al
  2025; 2025: 312-321

- **Developing a Research Center for Artificial Intelligence in Medicine.** *Mayo Clinic proceedings. Digital health*
  Langlotz, C. P., Kim, J., Shah, N., Lungren, M. P., Larson, D. B., Datta, S., Li, F. F., O'Hara, R., Montine, T. J., Harrington, R. A., Gold, G. E.
  2024; 2 (4): 677-686

- **The Coming AI Revolution in ClinicalTrials.** *Journal of the American College of Cardiology*
  Jain, S. S., Sarraju, A., Shah, N. H., Schulman, K. A., Ashley, E. A., Harrington, R. A., Mahaffey, K. W.
  2024

- **Evaluating Treatment Prioritization Rules via Rank-Weighted Average Treatment Effects** *JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION*
  Yadlowsky, S., Fleming, S., Shah, N., Brunskill, E., Wager, S.
  2024

- **Automated patient selection and care coaches to increase advance care planning for cancer patients.** *Journal of the National Cancer Institute*
  Gensheimer, M. F., Teuteberg, W., Patel, M. I., Gupta, D., Noroozi, M., Ling, X., Fardeen, T., Seevaratnam, B., Lu, Y., Alves, N., Rogers, B., Asuncion, M. K., Denofrio, et al
  2024

- **Avoiding Financial Toxicity for Patients from Clinicians' Use of AI.** *The New England journal of medicine*
  Jain, S. S., Mello, M. M., Shah, N. H.
  2024

- **Standing on FURM Ground: A Framework for Evaluating Fair, Useful, and Reliable AI Models in Health Care Systems** *NEJM CATALYST INNOVATIONS IN CARE DELIVERY*
  Callahan, A., McElfresh, D., Banda, J. M., Bunney, G., Char, D., Chen, J., Corbin, C. K., Dash, D., Downing, N. L., Jain, S. S., Kotecha, N., Masterson, J., Mello, et al
  2024; 5 (10)

- **The Need for Continuous Evaluation of Artificial Intelligence Prediction Algorithms.** *JAMA network open*
  Shah, N. H., Pfeffer, M. A., Ghassemi, M.
  2024; 7 (9): e2433009

- **Evaluating the clinical benefits of LLMs.** *Nature medicine*
  Bedi, S., Jain, S. S., Shah, N. H.
  2024

- **Automating the Enterprise with Foundation Models** *PROCEEDINGS OF THE VLDB ENDOWMENT*
  Wornow, M., Narayan, A., Opsahl-Ong, K., McIntyre, Q., Shah, N., Re, C.
  2024; 17 (11): 2805-2812

- **Merlin: A Vision Language Foundation Model for 3D Computed Tomography.** *Research square*

Blankemeier, L., Cohen, J. P., Kumar, A., Veen, D. V., Gardezi, S., Paschali, M., Chen, Z., Delbrouck, J. B., Reis, E., Truyts, C., Bluethgen, C., Jensen, M., Ostmeier, et al
2024

- **A multi-center study on the adaptability of a shared foundation model for electronic health records.** *NPJ digital medicine*
  Guo, L. L., Fries, J., Steinberg, E., Fleming, S. L., Morse, K., Aftandilian, C., Posada, J., Shah, N., Sung, L.
  2024; 7 (1): 171

- **Large Language Models in Medicine: Addressing Ethical Challenges**
  Chang, Y., Ong, J., William, W., Butte, A. J., Shah, N. H., Chew, L., Liu, N., Doshi-Velez, F., Lu, W., Savulescu, J., Ting, D.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2024

- **Ethical and regulatory challenges of large language models in medicine.** *The Lancet. Digital health*
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