Asad Aali

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Google Scholar
asad-aali

Education

2022 – 2024 **University of Texas at Austin**
MS, Electrical & Computer Engineering

2021 – 2022 **University of Texas at Austin**
MS, Information Technology

2015 – 2019 **Lahore University of Management Sciences**
BS, Accounting & Finance

Employment

2024 – 2026 **Stanford University**
Research Scientist

2026 – 2026 **Apple**
Machine Learning Intern

2022 – 2024 **University of Texas at Austin**
Graduate Research Assistant
Graduate Teaching Assistant (ECE 313)

Honors and Awards

2025 **Best Paper Award Candidate**, NeurIPS GenAI4Health

2024 **ECE Outstanding Student Fellowship**, UT Austin

Journal Articles

2025 **Robust multi-coil MRI reconstruction via self-supervised denoising**
Asad Aali, Marius Arvinte, Sidharth Kumar, Yamin I Arefeen, Jonathan I Tamir
Magnetic Resonance in Medicine (MRM)

A dataset and benchmark for hospital course summarization with adapted large language models
Asad Aali, Dave Van Veen, Yamin I Arefeen, Jason Hom, Christian Bluethgen, et al
Journal of the American Medical Informatics Association (JAMIA)

MedHELM: Holistic evaluation of large language models for medical tasks
Suhana Bedi, Hejie Cui, Miguel Fuentes, Alyssa Unell, Michael Wornow, et al
Nature Medicine

Performance of large language model-generated spanish discharge material
Eduardo Guerrero, **Asad Aali**, Emanuel Irizarry, Nicole Corso, Jason Hom, et al
Journal of General Internal Medicine

2024 **Adapted large language models can outperform medical experts in clinical text summarization**
Dave Van Veen, Cara Uden, Louis Blankemeier, Jean Delbrouck, **Asad Aali**, et al
Nature Medicine

Conferences

2025 **MedVAL: Toward expert-level medical text validation with language models**
Asad Aali, Vasiliki Bikia, Maya Varma, Nicole Chiou, Sophie Ostmeier, et al
Neural Information Processing Systems (GenAI4Health) - ***ORAL (TOP 5%)***

Prompt optimization improves robustness of language model benchmarks for medical tasks
Asad Aali, Muhammad Ahmed Mohsin, Vasiliki Bikia, Arnav Singhvi, Suhana Bedi, et al
Machine Learning for Health (ML4H)

PaDIS-MRI: Patch-based diffusion for data-efficient, radiologist-preferred MRI reconstruction
Rohan Sanda, **Asad Aali**, Andrew Johnston, Eduardo Reis, Jonathan Singh, et al
Machine Learning for Health (ML4H) - ***SPOTLIGHT***

Best of both worlds: Combining general and clinical language models for classification and text generation
Sasha Ronaghi, **Asad Aali**, Chloe Stanwyck, Miguel Fuentes, Tina Hernandez-Boussard, et al
Machine Learning for Health (ML4H)

MedFactEval and MedAgentBrief: A framework and workflow for generating and evaluating factual clinical summaries
François Grolleau, Emily Alsentzer, Timothy Keyes, Philip Chung, Akshay Swaminathan, et al
Pacific Symposium on Biocomputing (PSB)

2024 **Ambient diffusion posterior sampling: Solving inverse problems with diffusion models trained on corrupted data**
Asad Aali, Giannis Daras, Brett Levac, Sidharth Kumar, Alexandros G Dimakis, et al
International Conference on Learning Representations (ICLR)

GSURE denoising enables training of higher quality generative priors for accelerated multi-coil MRI reconstruction
Asad Aali, Marius Arvinte, Sidharth Kumar, Yamin I Arefeen, Jonathan I Tamir
International Society for Magnetic Resonance in Medicine (ISMRM) - ***ORAL***

MIMIC-IV-BHC: Labeled clinical notes dataset for hospital course summarization
Asad Aali, Dave Van Veen, Yamin I Arefeen, Jason Hom, Christian Bluethgen, et al
PhysioNet

2023 **Solving inverse problems with score-based generative priors learned from noisy data**
Asad Aali, Marius Arvinte, Sidharth Kumar, Jonathan I Tamir
IEEE Asilomar Conference on Signals, Systems, and Computers

Multi-contrast 3D fast spin-echo T2 shuffling reconstruction with score-based deep generative priors
Sidharth Kumar, **Asad Aali**, Jonathan I Tamir
International Society for Magnetic Resonance in Medicine (ISMRM) - ***ORAL***

Preprints

2025 **Structured prompting enables more robust evaluation of language models**
Asad Aali, Muhammad Ahmed Mohsin, Vasiliki Bikia, Arnav Singhvi, Richard Gaus, et al
arXiv:2511.20836

Prompt triage: Structured optimization enhances vision-language model performance on medical imaging benchmarks
Arnav Singhvi, Vasiliki Bikia, **Asad Aali**, Akshay S. Chaudhari, Roxana Daneshjou
arXiv:2511.11898

Preprints (continued)

- **Conditional prior-based non-stationary channel estimation using accelerated diffusion models**
  Muhammad Ahmed Mohsin, Ahsan Bilal, Muhammad Umer, **Asad Aali**, Muhammad Ali, et al
  arXiv:2509.15182
- **Splitwiser: Efficient LM inference with constrained resources**
  Asad Aali, Adney Cardoza, Melissa Capo
  arXiv:2505.03763

2024
- **Automated detection of underdiagnosed medical conditions via opportunistic imaging**
  Asad Aali, Andrew Johnston, Louis Blankemeier, Dave Van Veen, Laura T Derry, et al
  arXiv:2409.11686

Invited Talks

2025
- **MedVAL: Medical Text Validation with Language Models**
  NeurIPS GenAI4Health, San Diego
  Workshop on Machine Learning for Health, Apple
  Biomedical Informatics Research Colloquium, Stanford University
  AIMI Academic × Industry Connections Mixer, Stanford University
  IBIIS and AIMI Retreat, Stanford University
  AI+Biomedicine Seminar, Stanford University
  Radiological Sciences Lab, Stanford University
  Trustworthy AI Research Lab, Stanford University
  Daneshjou Lab, Stanford University
- **Structured Prompting Enables Robust Evaluation of Language Models**
  Machine Learning for Health (ML4H), San Diego
- **LLM Hallucinations: Causes, Detection, and Mitigation**
  IBIIS Journal Club, Stanford University
- **Optimizing Clinical Workflows using Language Models**
  Guest Lecture, Austin Community College
- **Advancing Healthcare with Machine Learning**
  Research Talk, HOPPR

2024
- **Detecting Underdiagnosed Conditions via Opportunistic Imaging**
  Radiology Retreat, Stanford University
- **Splitwiser: Efficient LM Inference with Constrained Resources**
  Lecture, UT Austin
- **Generative Priors for Accelerated MRI Reconstruction**
  Guest Lecture, Austin Community College
- **Accelerated Multi-Coil MRI Reconstruction**
  ECE Outstanding Student Series, UT Austin
- **GSURE Denoising for Accelerated Multi-Coil MRI Reconstruction**
  ISMRM, Singapore

2023
- **Hospital Course Summarization with Adapted Large Language Models**
  Research Showcase, Amazon
- **MIMO Channel Estimation with Priors learned from Noisy Data**
  6G@UT Conference, UT Austin
- **Solving Inverse Problems with Priors learned from Noisy Data**
  IEEE Asilomar Conference, Pacific Grove

Invited Talks (continued)

- **Generative Priors for Solving Inverse Problems from Noisy Data**
  IFML Workshop, University of Washington

2022
- **MIMO Channel Estimation using Score-Based Generative Models**
  6G@UT Conference, UT Austin

Reviewer

- **Journals**: *npj Digital Medicine, Circulation, Nature Scientific Reports*
- **Conferences**: *CVPR, ML4H*

Past Employment

2023 – 2023 **Machine Learning Intern,** Amazon

2022 – 2022 **Machine Learning Intern,** Dell Technologies

2020 – 2021 **Data Analyst,** Plutus21 Capital

2019 – 2020 **Data Analyst,** EZOfficeInventory