

# Asad Aali

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## 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)*
- **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*
- **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)*
- **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*
- **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*
- **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*

## Preprints (continued)

- 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
  - **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

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

## Past Employment

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| 2023 – 2023 | ■ <b>Machine Learning Intern</b> , Amazon            |
| 2022 – 2022 | ■ <b>Machine Learning Intern</b> , Dell Technologies |
| 2020 – 2021 | ■ <b>Data Analyst</b> , Plutus21 Capital             |
| 2019 – 2020 | ■ <b>Data Analyst</b> , EZOfficeInventory            |