# Asad Aali

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## Education

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|---|---|---|
| 2022 – 2024 | 🔖 | **University of Texas at Austin**<br>*MS, Electrical & Computer Engineering* |
| 2021 – 2022 | 🔖 | **University of Texas at Austin**<br>*MS, Information Technology* |
| 2015 – 2019 | 🔖 | **Lahore University of Management Sciences**<br>*BS, Accounting & Finance* |

## Employment

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|---|---|---|
| 2024 – 2026 | 🔖 | **Stanford University**<br>*Research Scientist* |
| 2026 – 2026 | 🔖 | **Apple**<br>*Machine Learning Intern* |
| 2022 – 2024 | 🔖 | **University of Texas at Austin**<br>*Graduate Research Assistant*<br>*Graduate Teaching Assistant (ECE 313)* |

## Honors and Awards

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|---|---|---|
| 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

2026    **Training-free adaptation of new-generation LLMs using legacy clinical models**
Sasha Ronaghi, Chloe Stanwyck, **Asad Aali**, Amir Ronaghi, Miguel Fuentes, et al
*arXiv:2601.03423*

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*

**Resolution-independent neural operators for multi-rate sparse-view CT**
Aujasvit Datta, Jiayun Wang, **Asad Aali**, Armeet Singh Jatyani, Anima Anandkumar
*arXiv:2512.12236*

## Preprints (continued)

**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*

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

## Invited Talks (continued)

- **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

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