Asad Aali

Research Scientist, Stanford University

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Education

2022 – 2024 **MS, Electrical & Computer Engineering**, UT Austin.
Thesis: *Solving inverse problems with generative priors trained on corrupted data*
Advisor: *Jon Tamir*

2021 – 2022 **MS, Information Technology**, UT Austin.
Thesis: *Optimizing cloud usage with machine learning*
Advisor: *Alex Dimakis, Constantine Caramanis*

2015 – 2019 **BS, Accounting & Finance**, LUMS.
Minor: *Computer Science*

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

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

Performance of large language model-generated spanish discharge material
Eduardo Pérez-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 Van Uden, Louis Blankemeier, Jean-Benoit Delbrouck, **Asad Aali**, et al
Nature Medicine

Conferences / Workshops

2025 **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

Conferences / Workshops (continued)

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

Preprints

2025
- **MedVAL: Toward expert-level medical text validation with language models**
  Asad Aali, Vasiliki Bikia, Maya Varma, Nicole Chiou, Sophie Ostmeier, et al
  arXiv:2507.03152
- **Patch-based diffusion for data-efficient, radiologist-preferred MRI reconstruction**
  Rohan Sanda, **Asad Aali**, Andrew Johnston, Eduardo Reis, Jonathan Singh, et al
  arXiv:2509.21531
- **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
- **MedHELM: Holistic evaluation of large language models for medical tasks**
  Suhana Bedi, Hejie Cui, Miguel Fuentes, Alyssa Unell, Michael Wornow, et al
  arXiv:2505.23802
- **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.**
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 (RSL), Stanford University.
Trustworthy AI Research Lab, Stanford University.
Daneshjou Lab, 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.

Employment

2024 – 2026 **Research Scientist,** Stanford University.
2022 – 2024 **Research Assistant,** UT Austin.
2024 – 2024 **Teaching Assistant** (ECE 313), UT Austin.
2023 – 2023 **Research Intern,** Amazon.
2022 – 2022 **Machine Learning Intern,** Dell Technologies.
2020 – 2021 **Data Analyst,** Plutus21 Capital.
2019 – 2020 **Data Analyst,** EZO.