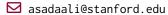
# **Asad Aali**

I am a research scientist at Stanford University, and my work focuses on developing machine learning (ML) algorithms for healthcare applications.



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asad-aali



## **Education**

2022 - 2024	MS, Electrical & Computer Engineering, The University of Texas at Austin.
	Thesis: Solving Inverse Problems with Generative Priors Trained on Corrupted Data.
2021 - 2022	MS, Information Technology, The University of Texas at Austin.
	Thesis: Optimizing cloud usage costs using Deep Learning-driven Transformer models.
2015 2010	RS (Honors) Accounting & Finance Labora University of Management Sciences

BS (Honors), Accounting & Finance, Lahore University of Management Sciences.

Minor: Computer Science.

## **Employment**

2024 -	Research Scientist, Stanford University.
	Research focus: Machine learning, foundation models, healthcare
2022 - 2024	<b>Research Assistant,</b> The University of Texas at Austin.
	Research focus: Biomedical imaging, inverse problems, deep learning
2023 - 2023	Research Intern, Amazon.
	Fine-tuned LLMs to improve synthesis of brief hospital courses from clinical notes
2022 - 2022	Machine Learning Intern, Dell Technologies.
	Built a pipeline using temporal fusion transformers to optimize cloud usage

### Research

#### **Journal Articles**

- **A. Aali**, M. Arvinte, S. Kumar, Y. I. Arefeen, and J. I. Tamir, Enhancing deep learning-driven multi-coil mri reconstruction via self-supervised denoising, *arXiv:2411.12919*, 2024.
- **A. Aali**, D. Van Veen, Y. I. Arefeen, J. Hom, C. Bluethgen, E. P. Reis, *et al.*, A dataset and benchmark for hospital course summarization with adapted large language models, *Journal of the American Medical Informatics Association*, 2024.
- D. Van Veen, C. Van Uden, L. Blankemeier, J.-B. Delbrouck, **A. Aali**, C. Bluethgen, *et al.*, Adapted large language models can outperform medical experts in clinical text summarization, *Nature medicine*, 2024.

### **Conference Proceedings**

- **A. Aali**, G. Daras, B. Levac, S. Kumar, A. G. Dimakis, and J. I. Tamir, Ambient diffusion posterior sampling: Solving inverse problems with diffusion models trained on corrupted data, in *International Conference on Learning Representations (ICLR)*, 2025.
- **A. Aali**, M. Arvinte, S. Kumar, Y. I. Arefeen, and J. I. Tamir, Gsure denoising enables training of higher quality generative priors for accelerated multi-coil mri reconstruction, in *International Society for Magnetic Resonance in Medicine*, 2024.

- **A. Aali**, A. Johnston, L. Blankemeier, D. Van Veen, L. T. Derry, D. Svec, *et al.*, Detecting underdiagnosed medical conditions with deep learning-based opportunistic ct imaging, in *arXiv*:2409.11686, 2024.
- **A. Aali**, M. Arvinte, S. Kumar, and J. I. Tamir, Solving inverse problems with score-based generative priors learned from noisy data, in *57th Asilomar Conference on Signals, Systems, and Computers*, IEEE, 2023.
- S. Kumar, A. Aali, and J. I. Tamir, Multi-contrast 3d fast spin-echo t2 shuffling reconstruction with score-based deep generative priors, in *International Society for Magnetic Resonance in Medicine*, 2023.

#### **Datasets**

**A. Aali**, D. Van Veen, Y. I. Arefeen, J. Hom, C. Bluethgen, E. P. Reis, *et al.*, Mimic-iv-ext-bhc: Labeled clinical notes dataset for hospital course summarization, *PhysioNet*, 2024.

#### **Talks**

- Detecting Underdiagnosed Medical Conditions with Opportunistic CT.

  Radiology Retreat, Stanford University.
  - Splitwiser: Efficient LLM Inference with Constrained Resources. *Lecture (ECE 382V)*, The University of Texas at Austin.
  - Generative Priors for Accelerated MRI Reconstruction.

    Guest Lecture (COSC 4380), Austin Community College (ACC).
  - Accelerated Multi-Coil MRI Reconstruction.

    ECE Outstanding Student Series, The University of Texas at Austin.
  - GSURE Denoising for Accelerated Multi-Coil MRI Reconstruction.

    International Society for Magnetic Resonance in Medicine, Singapore.
- Hospital Course Summarization with Adapted Large Language Models.

  Intern Research Showcase, Amazon.
  - MIMO Channel Estimation with Priors learned from Noisy Data. 6G@UT Conference, The University of Texas at 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, Seattle.
- MIMO Channel Estimation using Score-Based Generative Models. 6G@UT Conference, The University of Texas at Austin.

#### **Awards and Achievements**

2024 **ECE Outstanding Student Award**, The University of Texas at Austin.