# Asad Aali

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## EDUCATION

**The University of Texas at Austin** - MS in Electrical & Computer Engineering — 2022 – 2024
Thesis: Solving Inverse Problems with Priors trained on Corrupted Data
GPA: 3.8 / 4.0

**The University of Texas at Austin** - MS in Information Technology — 2021 – 2022
Thesis: Reduction in Cloud Usage costs using Temporal Fusion Transformers (TFT)
GPA: 3.9 / 4.0

**LUMS** - BSc (Hons) in Accounting & Finance — 2015 – 2019
Minor: Computer Science
GPA: 3.6 / 4.0

## EXPERIENCE

**Research Engineer**, Stanford Medicine | Stanford, CA — 2024 – Present
Research focus: Computer vision, medical imaging, biomedical informatics

**Research Assistant**, UT Austin | Austin, TX — 2022 – 2024
Research focus: Computational imaging, inverse problems, deep learning

**Teaching Assistant**, UT Austin | Austin, TX — 2024 – 2024
Teaching assistant for Linear Systems and Signals (ECE 313) covering 84 students

**Research Engineer Intern**, Amazon Health | San Francisco, CA — 2023 – 2023
Fine-tuned LLMs to improve synthesis of brief hospital courses from clinical notes

**Machine Learning Intern**, Dell Technologies | Austin, TX — 2022 – 2022
Built a machine learning pipeline using TFTs to reduce cloud usage costs

**Software Engineer**, Plutus21 Capital | Dallas, TX — 2020 – 2021
Developed software algorithms and dashboards for tracking of portfolio funds

**Solutions Consultant**, EZOfficeInventory | Austin, TX — 2019 – 2020
Led onboarding for enterprise clients and handled cloud-based deployments

## PUBLICATIONS & PREPRINTS

1. **Asad Aali***, Adney Cardoza*, Melissa Capo*.
   Splitwiser: Efficient LLM Inference with Constrained Resources.
   *Preprint*, 2024.
2. **Asad Aali***, Giannis Daras*, Brett Levac, Sidharth Kumar, Alexandros G. Dimakis and Jonathan I. Tamir.
   Ambient Diffusion Posterior Sampling: Solving Inverse Problems with Diffusion Models trained on Corrupted Data.
   *Preprint*, 2024.
3. **Asad Aali**, Dave V. Veen, Yamin I. Arefeen, Jason Hom, Christian Bluethgen, Eduardo P. Reis, Sergios Gatidis et al.
   A Benchmark of Domain-Adapted Large Language Models for Generating Brief Hospital Course Summaries.
   *Preprint*, 2024.
4. **Asad Aali**, Marius Arvinte, Sidharth Kumar, Yamin I. Arefeen and Jonathan I. Tamir.
   GSURE Denoising enables training of higher quality generative priors for accelerated Multi-Coil MRI Reconstruction.
   *International Society for Magnetic Resonance in Medicine (ISMRM), Oral*, 2024.

5. Dave V. Veen, Cara V. Uden, Louis Blankemeier, Jean-Benoit Delbrouck, **Asad Aali**, Christian Bluethgen, Anuj Pareek et al.
   Adapted large language models can outperform medical experts in clinical text summarization.
   *Nature Medicine*, 2024.
6. **Asad Aali**, Marius Arvinte, Sidharth Kumar, and Jonathan I. Tamir.
   Solving Inverse Problems with Score-Based Generative Priors learned from Noisy Data.
   *IEEE Asilomar Conference on Signals, Systems, and Computers*, 2023.
7. Sidharth Kumar, **Asad Aali**, and Jonathan I. Tamir.
   T2 Shuffling Fast 3D Spin-Echo Reconstruction with Score-Based Generative Modeling.
   *ISMRM Workshop on Data Sampling & Image Reconstruction,* 2023.
8. Sidharth Kumar, **Asad Aali**, and Jonathan I. Tamir.
   Multi-Contrast 3D Fast Spin-Echo T2 Shuffling Reconstruction with Score-Based Deep Generative Priors.
   *International Society for Magnetic Resonance in Medicine (ISMRM), Oral,* 2023.

## INVITED TALKS & PRESENTATIONS

- Generative Priors for Accelerated MRI Reconstruction.
  *Guest Lecture – Machine Learning II (COSC-4380)*
  Austin Community College (ACC), Austin, TX, Apr 2024.
- GSURE Denoising enables training of higher quality generative priors for accelerated Multi-Coil MRI Reconstruction.
  *ECE Outstanding Student Lecture Series*
  The University of Texas at Austin, Austin, TX, Mar 2024.
- MIMO Channel Estimation with Score-Based Generative Priors learned from Noisy Data.
  *6G@UT Student Research Showcase*
  The University of Texas at Austin, Austin, TX, Dec 2023.
- Domain-Adapted Large Language Models for Brief Hospital Course Summarization.
  *Intern Research Showcase*
  Amazon Health, Virtual, Dec 2023.
- Solving Inverse Problems with Score-Based Generative Priors learned from Noisy Data.
  *Poster Presentation*
  IEEE Asilomar Conference, Pacific Grove, CA, Oct 2023.
- Generative Priors for Solving Inverse Problems from Noisy Data.
  *IFML Workshop*
  University of Washington, Seattle, WA, Apr 2023.
- MIMO Channel Estimation using Score-Based Generative Models.
  *6G@UT Student Research Showcase*
  The University of Texas at Austin, Austin, TX, Nov 2022.