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

PREPRINTS (IN-REVIEW)

1. **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."

   arXiv, 2024.

2. **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."

   arXiv, 2024.

PUBLICATIONS

1. **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.

2. 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.

3. **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.
4. 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.
5. 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.