Asad Aali

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EDUCATION

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

LUMS - B.S.c (Hons) in Accounting & Finance — 2015 – 2019
Minor: Computer Science
GPA: 3.6 / 4.0

EXPERIENCE

Graduate Research Asst., UT Austin | Austin, TX — 2022 – Present
Research focus: Computational imaging, inverse problems, deep learning

Graduate Teaching Asst., UT Austin | Austin, TX — Spring 2024
Teaching assistant for Linear Systems and Signals (ECE 313) covering 84 students

Research Scientist Intern, Amazon Health (One Medical) | San Francisco, CA — Summer 2023
Fine-tuned LLMs to improve synthesis of brief hospital courses from clinical notes

Machine Learning Intern, Dell Technologies | Austin, TX — Spring 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

- "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
One Medical, 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.