Stanford



Onat Dalmaz

Ph.D. Student in Electrical Engineering, admitted Autumn 2023

Curriculum Vitae available Online

Bio

BIO

I am a 2nd year Ph.D. student in Electrical Engineering at Stanford University, advised by Brian Hargreaves and Akshay Chaudhari. I received my M.Sc. and B.Sc. in Electrical and Electronics Engineering at Bilkent University, where I was fortunate to work with Tolga Cukur My interests lie in the intersection of machine learning, signal processing, computational MR imaging, and healthcare. Recently, I've been working on developing mathematical tools to improve explainability of image reconstruction algorithms.

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

My current research centers on developing mathematical tools to enhance the explainability of image reconstruction algorithms in computational magnetic resonance imaging (MRI). By integrating principles from machine learning, signal processing, and generative models, I aim to improve the transparency and reliability of AI applications in medical imaging.

Publications

PUBLICATIONS

- **Efficient Noise Calculation in Deep Learning-based MRI Reconstructions**
  Dalmaz, O., Desai, A. D., Heckel, R., Cukur, T., Chaudhari, A. S., Hargreaves, B.
  edited by Singh, A., Fazel, M., Hsu, D., Lacoste-Julien, S., Berkenkamp, F., Maharaj, T., Wagstaff, K., Zhu, J.
  JMLR-JOURNAL MACHINE LEARNING RESEARCH.2025: 12280-12313

- **COVID-19 Detection From Respiratory Sounds With Hierarchical Spectrogram Transformers** *IEEE JOURNAL OF BIOMEDICAL AND HEALTH INFORMATICS*
  Aytekin, I., Dalmaz, O., Gonc, K., Ankishan, H., Saritas, E., Bagci, U., Celik, H., Cukur, T.
  2024; 28 (3): 1273-1284

- **One model to unite them all: Personalized federated learning of multi-contrast MRI synthesis.** *Medical image analysis*
  Dalmaz, O., Mirza, M. U., Elmas, G., Ozbey, M., Dar, S. U., Ceyani, E., Oguz, K. K., Avestimehr, S., Cukur, T.
  2024; 94: 103121

- **BolT: Fused window transformers for fMRI time series analysis.** *Medical image analysis*
  Bedel, H. A., Sivgin, I., Dalmaz, O., Dar, S. U., Çukur, T.
  2023; 88: 102841

- **Unsupervised Medical Image Translation with Adversarial Diffusion Models.** *IEEE transactions on medical imaging*
  Ozbey, M., Dalmaz, O., Dar, S. U., Bedel, H. A., Ozturk, S., Gungor, A., Cukur, T.
  2023; PP

- **User Feedback-based Online Learning for Intent Classification**
  Gonc, K., Saglam, B., Dalmaz, O., Cukur, T., Kozat, S. S., Dibeklioglu, H., ACM
  ASSOC COMPUTING MACHINERY.2023: 613-621
- **Denoising Diffusion Adversarial Models for Unconditional Medical Image Generation**
  Dalmaz, O., Saglam, B., Elmas, G., Mirza, M., Cukur, T., IEEE
  IEEE.2023
- **Semi-Supervised Learning of MRI Synthesis Without Fully-Sampled Ground Truths** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Yurt, M., Dalmaz, O., Dar, S., Ozbey, M., Tinaz, B., Oguz, K., Cukur, T.
  2022; 41 (12): 3895-3906
- **ResViT: Residual Vision Transformers for Multimodal Medical Image Synthesis.** *IEEE transactions on medical imaging*
  Dalmaz, O., Yurt, M., Cukur, T.
  2022; 41 (10): 2598-2614
- **Detecting COVID-19 from Respiratory Sound Recordings with Transformers**
  Aytekin, I., Dalmaz, O., Ankishan, H., Saritas, E. U., Bagci, U., Cukur, T., Celik, H.
  edited by Drukker, K., Iftekharuddin, K. M.
  SPIE-INT SOC OPTICAL ENGINEERING.2022
- **Improving Image Synthesis Quality in Multi-Contrast MRI Using Transfer Learning via Autoencoders**
  Selcuk, S., Dalmaz, O., Dar, S., Cukur, T., IEEE
  IEEE.2022
- **Bottleneck Sharing Generative Adversarial Networks for Unified Multi-Contrast MR Image Synthesis**
  Dalmaz, O., Saglam, B., Gonc, K., Dar, S. U. H., Cukur, T., IEEE
  IEEE.2022
- **Multi-Contrast MRI Synthesis with Channel-Exchanging-Network**
  Dalmaz, O., Aytekin, I., Dar, S., Erdem, A., Erdem, E., Cukur, T., IEEE
  IEEE.2022
- **Skip Connections for Medical Image Synthesis with Generative Adversarial Networks**
  Mirza, M., Dalmaz, O., Cukur, T., IEEE
  IEEE.2022
- **Unified Intrinsically Motivated Exploration for Off-Policy Learning in Continuous Action Spaces**
  Saglam, B., Mutlu, F. B., Dalmaz, O., Kozat, S. S., IEEE
  IEEE.2022
- **An Intrinsic Motivation Based Artificial Goal Generation in On-Policy Continuous Control**
  Saglam, B., Mutlu, F. B., Gonc, K., Dalmaz, O., Kozat, S. S., IEEE
  IEEE.2022
- **Improving the Performance of Batch-Constrained Reinforcement Learning in Continuous Action Domains via Generative Adversarial Networks**
  Saglam, B., Dalmaz, O., Gonc, K., Kozat, S. S., IEEE
  IEEE.2022
- **edaGAN: Encoder-Decoder Attention Generative Adversarial Networks for Multi-contrast MR Image Synthesis**
  Dalmaz, O., Saglam, B., Gonc, K., Cukur, T., IEEE
  IEEE.2022: 320-324
- **A Specificity-Preserving Generative Model for Federated MRI Translation**
  Dalmaz, O., Mirza, U., Elmas, G., Ozbey, M., Dar, S. U. H., Cukur, T.
  edited by Albarqouni, S., Bakas, S., Bano, S., Cardoso, M. J., Khanal, B., Landman, B., Li, Qin, C., Rekik, Rieke, N., Roth, H., Sheet, D., Xu, D.
  SPRINGER INTERNATIONAL PUBLISHING AG.2022: 79-88