# Stanford

# Onat Dalmaz

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

📄 Curriculum Vitae available Online

## Bio

**BIO**

Onat is a Ph.D. student in Electrical Engineering at Stanford advised by Prof. Brian Hargreaves and Prof. Akshay Chaudhari. He explores the analysis and optimization of MRI reconstruction algorithms to mitigate noise and enhance image quality, combining theoretical insights with machine learning based approaches. Prior to that, he was a Master's student in Electrical and Electronics Engineering at Bilkent University, Ankara, Turkey where he worked with Prof. Tolga Çukur in the National Magnetic Resonance Research Center (UMRAM) between 2020-2023. There, he leveraged novel deep learning and computer vision algorithms to devise state-of-the-art medical image synthesis and MRI reconstruction techniques. He received his B.S. degree in Electrical and Electronics Engineering from Bilkent University in 2020.

## Research & Scholarship

**CURRENT RESEARCH AND SCHOLARLY INTERESTS**

My research lies in the intersection of machine learning, computer vision, medical imaging, and healthcare. I leverage deep learning and computer vision algorithms to devise state-of-the-art biomedical imaging techniques that can address various challenges in multi-modal medical image synthesis and MRI reconstruction. My research aims to improve the resolution, contrast, and diversity of medical images, enhancing diagnostic information and patient comfort, decreasing examination costs and toxicity exposure, and facilitating multi-modal medical imaging even in low-resource settings. To achieve this goal, I focus on two aspects in deep learning for medical imaging: (1) devising novel deep architectures that can effectively capture the complex relationships between different modalities and generate realistic and diverse images, and (2) introducing novel and robust learning strategies that can overcome the challenges of data scarcity, domain shift, and mode collapse in medical image synthesis/reconstruction.

## Publications

**PUBLICATIONS**

- **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

- **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., Drukker, K., Iftekharuddin, K. M.
  SPIE-INT SOC OPTICAL ENGINEERING.2022