Stanford



Aidan James Fitzpatrick

Ph.D. Student in Electrical Engineering, admitted Autumn 2018

Bio

BIO

AIDAN FITZPATRICK received the B.S. degree in electrical and computer engineering from the University of Massachusetts Amherst, in 2018, and the M.S. degree in electrical engineering from Stanford University in 2020, where he is currently pursuing the Ph.D. degree in electrical engineering.

His current research interests are in computational imaging - specifically at the intersection of electromagnetics, acoustics, and signal processing for the codesign of imaging algorithms and system hardware for non-contact thermoacoustic/photoacoustic, and millimeter wave applications.

LINKS

- News Article Airborne Sonar: https://news.stanford.edu/2020/11/30/combining-light-sound-see-underwater/
- Project Webpage: https://airbornesonar.stanford.edu/
- Project Video Airborne Sonar: https://www.youtube.com/watch?v=2YyAnxQkeuk
- LinkedIn Profile: https://www.linkedin.com/in/aidanfitzpatrick23/
- Google Scholar Profile: https://scholar.google.com/citations?user=h0Z2q3sAAAAJ&hl=en&inst=5746887945952177237&oi=ao

Publications

PUBLICATIONS

• A Thermoacoustic Imaging System for Noninvasive and Nondestructive Root Phenotyping IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS II-EXPRESS BRIEFS

Singhvi, A., Fitzpatrick, A., Scharwies, J., Dinneny, J. R., Arbabian, A. 2022; 69 (5): 2493-2497

- Multi-Watt-Level 4.9-GHz Silicon Power Amplifier for Portable Thermoacoustic Imaging *IEEE JOURNAL OF SOLID-STATE CIRCUITS* Sutardja, C., Singhvi, A., Fitzpatrick, A., Cathelin, A., Arbabian, A. 2022
- Dynamic Tuning of Sensitivity and Bandwidth of High-Q Transducers via Nested Phase Modulations Fitzpatrick, A., Singhvi, A., Arbabian, A., IEEE IEEE.2022: 876-880
- Laser Scanning for Single-Shot Frequency Diverse Photoacoustic Excitation Meng, W. L., Fitzpatrick, A., Singhvi, A., Arbabian, A., IEEE IEEE.2022
- Multi-Task Learning for Simultaneous Speed-of-Sound Mapping and Image Reconstruction Using Non-Contact Thermoacoustics Singhvi, A., Wang, M. L., Fitzpatrick, A., Arbabian, A., IEEE

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- Spatial Reconstruction of Soil Moisture Content using Non-Contact Thermoacoustic Imaging 2020 IEEE SENSORS Fitzpatrick, A., Singhvi, A., Arbabian, A. 2020: 1–4
- Spatial Reconstruction of Soil Moisture Content using Non-Contact Thermoacoustic Imaging Fitzpatrick, A., Singhvi, A., Arbabian, A., IEEE IEEE.2020
- Resolution Enhanced Non-Contact Thermoacoustic Imaging using Coded Pulse Excitation Singhvi, A., Fitzpatrick, A., Arbabian, A., IEEE IEEE.2020
- Resolution Enhanced Non-Contact Thermoacoustic Imaging using Coded Pulse Excitation IEEE International Ultrasonics Symposium (IUS) Singhvi, A., Fitzpatrick, A., Arbabian, A. 2020: 1–4
- An Airborne Sonar System for Underwater Remote Sensing and Imaging *IEEE ACCESS* Fitzpatrick, A., Singhvi, A., Arbabian, A. 2020; 8: 189945–59
- Non-Invasive Remote Temperature Monitoring Using Microwave-Induced Thermoacoustic Imaging. Conference proceedings : ... Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual Conference Nan, H., Fitzpatrick, A., Wang, K., Arbabian, A. 2019; 2019: 6375–78
- Non-Invasive Remote Temperature Monitoring Using Microwave-Induced Thermoacoustic Imaging Nan, H., Fitzpatrick, A., Wang, K., Arbabian, A., IEEE IEEE.2019: 6375–78