Alice Zhang

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EDUCATION

University of Texas at Austin M.S. in Electrical and Computer Engineering, GPA: 3.83 / 4.00 Ph.D. | Advisor: Prof. Edison Thomaz Fulbright/Swiss Government Excellence Fellowship Recipient

Georgia Institute of Technology Bachelor of Science in Electrical Engineering, GPA: 3.85 / 4.00

RESEARCH EXPERIENCE

Human Signals Lab | TensorFlow, Android Studio

- Build, train, and test machine learning models that recognize longitudinal human activity based on audio and inertial data. Create digital biomarkers that detect mental and physical disorders using consumer-market wearables.
- Develop Android and Wear OS applications that deploy neural nets to classify real-world sensor data from edge devices, including iterative optimization to support 8+ hours of continuous runtime on fitness watches.
- Run IRB-approved human and user studies with diverse populations to collect training data and evaluate new algorithms.

PROFESSIONAL EXPERIENCE

Dolby Laboratories PyTorch	San Francisco, CA
Multimodal PhD Research Intern	May 2024 - Aug. 2024
• Decomposed audio embeddings into semantic concepts, improving human interpretability of	f audio embeddings.
Bose Corporation TensorFlow Lite for Microcontrollers	Framingham, MA
Software Engineering / Product Innovation Intern	Jun. 2023 - Aug. 2023
• Constructed processes and adapted TensorFlow Lite to deploy machine learning models to m wearables, improving acoustic noise cancellation for end users.	hicroprocessors for audio
Applied Research Laboratories at UT Austin Verilog, Linux, bash scripting	Austin, TX
Engineering Scientist Associate	Jun. 2020 - Aug. 2022
• Developed FPGA firmware for software-defined receivers to monitor functional status of navinformation used by the U.S. Air Force for command and control of the satellites.	vigation satellites. Status
• Created Python pipelines to generate reports with data collected from ground receivers and a resulting in discovery of receiver hardware bugs.	nalyzed the reports daily,
Garmin VHDL, Altera	Olathe, KS

Design Engineering Intern

May. 2019 - Aug. 2019 • Wrote VHDL testbenches to simulate and verify SPI communication between FPGA and 5 bus functional models.

SELECT PUBLICATIONS

1. Liang D., Zhang A., Thomaz, E. (2023). Automated Face-To-Face Conversation Detection on a Commodity Smartwatch with Acoustic Sensing. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies. 2. Liang D., Zhang A., et al. (2024). Improving Audio Classification with Low-Sampled Microphone Input: An Empirical Study Using Model Self-Distillation. Interspeech 2024.

PATENTS

1. Thomaz, E., Liang D., Zhang A. (2023). Detecting Inter-Person Conversations Using a Smart Wearable Device. U.S. Patent Pending, filed June 2023

Austin, TX May 2024 Expected May 2027

> Atlanta, GA May 2020

Aug. 2022 - Present