Alice Zhang

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EDUCATION

University of Texas at Austin **Austin, TX**
MS/PhD in Electrical and Computer Engineering, GPA: 3.72 / 4.00 Aug. 2022 – 2027 (expected)
Advisor: Prof. Edison Thomaz | Cockrell School of Engineering Fellowship Recipient

Georgia Institute of Technology **Atlanta, GA**
Bachelor of Science in Electrical Engineering, GPA: 3.85 / 4.00 Aug. 2016 – May 2020
Teaching assistant for Linear Algebra and Calculus I.

RESEARCH EXPERIENCE

Human Signals Lab | TensorFlow, Android Studio Aug. 2022 – Present
- Build machine learning models using audio and inertial data for longitudinal human activity recognition, aiming to create digital biomarkers for detection of mental and physical disorders.
- Develop Android and Wear OS applications that integrate neural nets to collect and 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 data and evaluate new solutions.

Center for Translational Research in Neuroimaging & Data Science | TensorFlow Sept. 2019 – Mar. 2020
- Experimented neural networks and Gaussian process regression models to predict an individual's age from MRI images of the brain, exploring the relationship between aging and an individual's lifestyle behaviors.

PROFESSIONAL EXPERIENCE

Bose Corporation | TensorFlow Lite for Microcontrollers, Eclipse **Framingham, MA**
Software Engineering / Product Innovation Intern Jun. 2023 - Aug. 2023
- Constructed processes and adapted TensorFlow Lite to deploy machine learning models to microprocessors for audio wearables, improving acoustic noise cancellation for end users.

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 navigation satellites, information which is used by U.S. Air Force for command and control of the satellites..
- Created Python pipelines to generate reports with data collected from ground receivers and analyzed the reports daily, resulting in discovery of receiver hardware bugs.

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.

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. Sendi M., Jacob J., **Zhang A.**, et al. (2020). Predicting Brain Age Using Functional Network Connectivity: A Deep Neural Network Method. Poster presented at the annual meeting of the Organization for Human Brain Mapping.

COMPLETED PROJECTS

Timelapse Generation using Generative Adversarial Network | PyTorch May 2023
- Trained a generative adversarial network (GAN) to generate 10s video timelapses of flowers blooming, which included creating and augmenting a 5hr dataset and evaluating model performance.