

Yuxuan Yang

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EDUCATION

Georgia Institute of Technology, Atlanta, Georgia

Aug. 2024—May. 2026

Master of Science in Electrical Engineering, GPA: 4.00/4.00

Georgia Institute of Technology, Atlanta, Georgia

Aug. 2018—May. 2022

Bachelor of Science in Electrical Engineering, GPA: 3.84/4.00

Graduated with Highest Honor

SKILLS

Programming: MATLAB, C++, Python, Java, JavaScript, SQL

Hardware: Audio Precision, Klippel KA3, 3D Printer, Raspberry Pi, Arduino, Oscilloscope, Soldering

Software: Listen SoundCheck, HEAD Acoustics ACQUA, Fusion 360, EAGLE, LTSpice, REAPER, Basta!

EXPERIENCE

Georgia Institute of Technology, Atlanta, Georgia

Aug. 2025—May. 2026

Graduate Teaching Assistant - ECE6250 Advanced DSP and ECE2026 Digital Systems

- Led office hours and discussion forum for 90+ students. Wrote and graded assignments and exams and provided technical feedback.

Amplify Labs Global, San Jose, California

Jun. 2022—Apr. 2024

Audio Systems Engineer

- Optimized acoustic performance of next-generation consumer electronics by conducting detailed measurements and DSP tuning, leading to enhanced audio clarity and user experience.
 - Accelerated product development cycles by creating 3D models of parts and producing prototypes using 3D printers, reducing reliance on overseas shipping and cutting lead times.
 - Delivered data-driven insights to clients like Peloton Interactive, Humane, and Motive Technologies by presenting and explaining test results, enabling informed design decisions.
 - Bridged communication gaps between clients and manufacturers in Asia, ensuring efficient part sourcing and seamless transitions from prototyping to mass production.
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PROJECTS

Noise Dependent Music Dynamic Range Control using Gabor Analysis,

Research Project

Jan. 2025—May. 2026

- Built a noise-aware music enhancement system using time–frequency noise analysis and perceptual masking to drive sub-band dynamic range compression, improving perceived playback quality in noisy environments.
- Extended a C++ constant-Q non-stationary Gabor analysis library and integrated it with MATLAB for subband coefficient processing and near-perfect reconstruction, achieving lower distortion than conventional DRC methods.
- Validated performance with objective and subjective evaluation, including a custom perceptual metric and double-blind AB listening tests with statistical analysis.

Robust Audio Watermark, Class Project

Mar. 2025—Apr. 2025

- Developed and validated a spread-spectrum algorithm in MATLAB to embed watermarks within audio signals, resistant to common audio attacks and imperceptible to listeners, with applications in copyright protection.

Speakerphone Evaluation, Personal Project

Sep. 2023—Oct. 2023

- Designed and executed tests to measure the speaker frequency response, harmonic distortion, maximum loudness, and radiating pattern of six popular speakerphone options on the market with Audio Precision.
- Designed and conducted subjective listening tests with a group of trained listeners on speakerphone speaker playback and microphone record performance based on the research by Floyd Toole.

Headphone Amplifier with Active Loudness Compensation, Group Project

Aug. 2021—May. 2022

- Designed and built voltage controlled filters with JFETs, level detection and amplifier circuit to enable active loudness compensation when the input level at the amplifier is changed.
 - Integrated Mbed microcontroller into the design to enable user controls and LCD screen interface with C++.
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RELATIVE COURSEWORK

Audio Engineering: Fundamentals of acoustics. Modeling the electrical, mechanical, and acoustic behaviors of audio systems.

Adaptive Filtering: Study of adaptive filtering algorithms such as LMS, RLS and Kalman filters. Implementation in MATLAB.

Digital Processing of Speech Signals: The application of digital signal processing to problems in speech communication.

Fundamentals of ML: Core machine learning concepts and algorithms, including classification, regression, clustering, neural networks, autoencoders, and model interpretability.
