

Angela Branchek

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EDUCATION

Georgia Institute of Technology	Atlanta, GA
<i>Master of Science, Music Technology</i>	2024 - 2026
The College of New Jersey	Ewing, NJ
<i>Bachelor of Arts, Interactive Multimedia</i>	2016 - 2020

RESEARCH EXPERIENCE

Auditory Entrainment and Selective Attention	2025 - 2026
<i>Master's Research Project</i>	Atlanta, GA

- Designed and implemented a PsychoPy-based human-subjects experiment investigating how frequency-modulated auditory stimuli influence selective attention and neural entrainment.
- Independently recruited, scheduled, consented, and tested 10 participants using PsychoPy and BrainVision systems; maintained organized participant records and digital documentation.
- Prepared an expedited IRB submission and developed consent forms, recruitment materials, participant/task instructions, a demographic questionnaire, and experiment documentation.
- Developed Python and MATLAB scripts for stimulus generation, experimental control, and data processing.
- Independently preprocessed EEG data in EEGLAB and performed statistical analyses and data visualization in R.

Georgia Institute of Technology — School of Music	Sep 2025 - June 2026
<i>Student Research Assistant</i>	Atlanta, GA

- Supported research on hip-hop lyrical flow by conducting recording sessions using SSL consoles, Reaper, and Neumann microphones; prepared annotated datasets for computational analysis.
- Generated and validated lyric transcriptions using a Whisper-based Python pipeline; collaborated directly with artists to ensure transcription accuracy.

PRESENTATIONS

Branchek, A., Arthur, C., McNamara, J., & Sun, X. (2026, July). How auditory temporal structure shapes neural entrainment and selective attention. Poster presented at the Society for Music Perception and Cognition (SMPC).

TEACHING & MENTORING

Georgia Institute of Technology — College of Computing	Jan 2025 - Jan 2026
<i>Academic Peer Coach</i>	Atlanta, GA

- Mentored 15–20 undergraduate students through one-on-one academic coaching, individualized study planning, and ongoing academic support.
- Facilitated 3–5 hours of weekly study groups promoting collaborative learning and improved academic performance.

TECHNICAL & PROFESSIONAL EXPERIENCE

WREK Atlanta	Aug 2025 - May 2026
<i>IT Director</i>	Atlanta, GA

- Maintained WREK’s Ghost CMS website and deployed updates through GitLab; developed Python-based technical tools supporting station operations.
- Documented technical workflows and trained the incoming IT Director to support continuity of station systems.

MACOM

RF Test Technician

Jan 2017 - Aug 2024

Hamilton Township, NJ

- Performed final testing of RF linearizers using network analyzers, testing approximately 10–30 units per week and escalating abnormal results to test engineers.

AUDIO & MUSIC EXPERIENCE

Flemington DIY

Live Sound Engineer (Volunteer)

Jun 2026 - Present

Flemington, NJ

- Mixed live sound for 10+ performances using an Allen & Heath WZ 16:2DX, managing microphones, stage setup, monitors, performer support, and volunteer training.

The Barber Shop Studios

Studio Intern

Oct 2023 - Jun 2024

Hopatcong, NJ

- Assisted engineers during professional recording sessions using Pro Tools, preparing recording spaces, microphones, and signal chains for artists.

SELECTED PROJECTS

One Knob Vocal Chain Plugin

- Co-developed a VST3/AU vocal-processing plugin in C++ and JUCE as part of a five-person software engineering team; contributed JUCE integration, GUI development, and technical documentation for a single-knob interface controlling EQ, compression, saturation, chorus, and reverb.

Infinite Jukebox

- Co-developed a Python-based audio remixing system generating extended song arrangements using similarity matrix analysis and algorithmic sequencing.

TECHNICAL SKILLS

Programming: Python, MATLAB, R, C++, JavaScript, Java, HTML/CSS

Research: PsychoPy, EEGLAB, BrainVision EEG, human-subjects research, IRB documentation

Audio & Music Technology: JUCE, Ableton Live, Reaper, Pro Tools, Max/MSP

Methods: EEG preprocessing, statistical analysis, audio signal processing, music information retrieval