

SHU XU

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EDUCATION

Brown University | Providence, RI | Class of 2027

Intended Major: Computer Science, Music

Relevant Courses: Deep Learning, Intro to Software Engineering, Computer Vision, Design and Analysis of Algorithms, Critical Data and Machine Learning Studies, Accelerated Intro to CS, Nonfiction Audio Storytelling

Berklee College of Music | Online

Relevant Courses: Composing and Producing Electronic Music 1, Composing and Producing Electronic Music 2, Ableton Live Fundamentals, and Introduction to Procedural Music Software with Max.

TECHNICAL EXPERIENCE

PALM Lab | Researcher

Sep 2024 – Present

- Working under Professor Chen Sun (Brown CS) and Chris Donahue (CMU CS) to explore generative music models.
- Currently extending [music theory embeddings](#) to language modality in text-to-music models, allowing users to have more fine-tuned control over generated audio by prompting with music theory concepts.

HackMIT | Mobile Developer

Sep 2024

- Created MITI, a real-time collaborative AI audio workstation. Won the [Best Musical Hack](#) award.
- Built frontend with Next.js, React, and Tailwind CSS. Integrated generative instrumentals with audio feature extraction using Suno API and fluent-ffmpeg. Designed the MITI product and presentation using Figma.

Glu | Mobile Developer

July 2024 - Present

- Developed full-stack mobile application. Incorporated Firebase user authentication and OpenAI API GPTs.

Computer Music Synthesis Research Program | Programmer, Researcher

June 2022 - August 2022

- Studied algorithmic composition via the Nyquist IDE software under Roger B. Dannenberg (CMU CS).
- Created the [Image-Based Granular Synthesizer](#). Received the Music Technology Award at Intl. Electronic Music Competition 2022.

USA Computing Olympiad | Competitive Programmer

December 2020 - December 2022

- Platinum division (top 0.034 of all participants as of December 2022).

Brown Ignite CS | Programmer Organizer, Instructor

September 2023 - Present

- Coordinated computer science teaching initiatives in underserved school districts in the Providence Area.

AI Color Organ | Independent Researcher

May 2022 - September 2022

- Designed Generative Adversarial Networks for music visualization, utilized HistoGAN and note onset detection; published [research paper](#) at the international Artificial Intelligence conference: CMLAI 2023 (ISSN: 2791-0210).
- Generated artwork with my algorithm. Demo displayed at the 2022 Shanghai TANK Art Festival.

MUSIC EXPERIENCE

Brown Concert Agency | Organizer, Head of Branding

September 2023 - Present

- Managed \$600,000 funding for bidding musicians and event preparations for the Spring Weekend music festival.
- Head of the branding team. Designed the visual interface posters, merchandise, and [graphics](#).

Brown Organization of Producers & Songwriters | Leader

August 2024 - Present

- Leading a group of 90 student music producers. Organized production sessions and industry panels.

Computer Music Teaching Assistant | Teaching Assistant

August 2024 - Present

- Teaching Assistant for MUSC 0200: Computers and Music. Taught DAW techniques, sampling, and synthesis.

Brown Arts Insitute | Sound & Lighting Engineer, Production Assistant

September 2023 - August 2024

- Engaged in acoustics testing, lighting controls, and sound mixing at the Lindemann Performing Arts Center.

Independent Musician | Producer

August 2021 - May 2023

- Released 50+ original tracks on SoundCloud and NetEase Cloud Music (Chinese music platform).
- Published 30+ multimedia music videos on WeChat Channels and gained more than 70 thousand plays.

SKILLS

Technical: C++, Python, Java, Pyret, Racket, Tensorflow, Numpy, Scikit-Learn, Pandas, Next.js, React, React Native, Docker, Vite, Angular, Typescript, Javascript, Tailwind, Firebase, Django, PostgreSQL

Creative: Ableton, FL Studio, Logic Pro, Max/MSP, JUCE, SuperCollider, Final Cut Pro, Figma, Adobe Illustrator