SHU XU

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EDUCATION

Brown University | Providence, RI | *Class of 2027*
Intended Major: Computer Science, Science Technology & Society
Relevant Courses**:** Deep Learning, Intro to Software Engineering, Accelerated Intro to Comp Sci, Linear Algebra, Statistical Inference, Multivariable Calculus

EXPERIENCE

Brown IgniteCS | *Programmer Organizer, Instructor*   September 2023 - Present
- Coordinated teaching initatives in underserved school districts in the Providence Area.
- Programmed stencil code and presentations, managed student projects.

Brown CS Departmental Undergraduate Group | *Organizer*   September 2023 - Present
- Fostered campus engagement through orgaizing wellness, networking and education events.

USA Computing Olympiad | *Competitive Programmer*   December 2020 - December 2022
- Platinum division (top 0.034 of all participants as of December 2022).
- 1st place among 856 participants in the 2022 US Open Contest (Gold Division).

Computer Music Synthesis Research | *Programmer, Team Leader*   June 2022 - August 2022
- Studied algorithmic composition via the Nyquist IDE software under Roger B. Dannenberg, Carnegie Mellon Professor Emeritus of Computer Science.
- Led a team of two undergraduate students to create an Image-Based Granular Synthesizer. Our project received the Music Technology Award at Intl. Electronic Music Competition 2022.

Brown Concert Agency | *Organizer, Graphic Designer*   September 2023 - Present
- Organized Brown University's annual Spring Weekend music festival.
- Designed the visual interface, poster, merch and graphics. Intergraded Web API data to drive artist research.
- Managed $300,000 funding in biding musicians and event preparations.

Brown Arts Insitute | *Sound & Lighting Engineer, Production Assistant*   September 2023 - Present
- Engaged in acoustics testing, lighting controls, and sound mixing.
- Supported the production of several performances and exhibitions at the Lindemann Performing Arts Center.

Berklee Music Production Program | *Producer*   August 2021 - May 2023
- Attained the "Composing and Producing Electronic Music Professional Certificate" by Berklee College of Music along with 12 college credits.
- Took four courses: Composing and Producing Electronic Music 1, Composing and Producing Electronic Music 2, Ableton Live Fundamentals, and Introduction to Procedural Music Software with Max.

PROJECTS

Text-to-image Generation Using Stable Diffusion   April 2024 - June 2024
- Implemented and presented a lightweight diffusion model containing a Variational Autoencoder, UNet, and pre-trained CLIP using TensorFlow.
- Trained and tested model on the Fashion MNIST dataset, achieved an average loss across batches of 36.631

Redlining Data Mapping   April 2024 - May 2024
- Created a website to illustae to display historic redlining data through using GeoJson and MapBox API.
- Built backend using java and firebase, with API endpoints that allow users to request and filter coordinates.

AI Color Organ   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.

SKILLS & INTERESTS

Technical: Tensorflow, Python, C++, Java, HTML/CSS, TypeScript, React.js, Pyret, Racket, Arduino, Max/MSP, JUCE , NyquistIDE, SuperColider, Sonic Pi
Creative: Ableton, FL Studio, Logic Pro, Final Cut Pro
Languages: Chinese (native), English (native)