

MATTHEW UDRY

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EDUCATION

Yale University, New Haven, CT

Expected May 2022

B.A. Computing and the Arts, GPA: 3.70

Senior Thesis: *Digital Signal Processing Techniques for Reconstructing String Instrument Acoustics*

Selected Coursework: Object-Oriented Programming, Systems Programming, Algorithms, Data Structures, Neural Networks & Language, Computer Graphics, Digital Sound Representation & Synthesis, Music Technology

International Chinese Language Program, National Taiwan University, Taipei

Summer 2019

Fully funded by Richard U. Light Fellowship

EXPERIENCE

Arup, *Acoustic Consulting Intern*, Los Angeles, CA

Summer 2021

- Designed and conducted tests exploring performance of game engine-powered auralization software, redesigning how team presents immersive acoustic demos to architects and clients
- Analyzed architectural drawings and performed acoustic calculations on auditoriums and office spaces, providing design feedback to clients to meet target reverberation and noise levels
- Worked with team of 5 interns on a design project, conceptualizing and workshopping spatial audio and immersive projection designs for 300-seat performance space

Yale Music Department, *Tech Manager*, New Haven, CT

Feb – Jun 2021

- Implemented and oversaw networked, multi-room, COVID-safe rehearsals and recording sessions using Dante Audio, allowing student ensembles to conduct real-time rehearsals and performances when otherwise not possible
- Completed Windows build of department-funded Max wrapper for Google's spatial audio SDK
- Maintained and managed recording studio, computer lab, and classroom AV equipment

Carnegie Mellon University, *Research Assistant*, Pittsburgh, PA

Summer 2020

- Collaborated with Professor Johannes DeYoung on an immersive media piece, exhibited at the 2020 B3 Biennial of the Moving Image
- Experimented with neural network-powered music generation, constructing a custom dataset and remotely training models on high-performance computers
- Conceptualized and programmed an adaptive audio system in Unity, utilizing novel synthesis techniques to seamlessly integrate machine-generated audio into virtual environment

Rockwell Automation, *Intern*, Milwaukee, WI

Summer 2018

- Independently wrote external program to complement Rockwell software, doubling speed for data entry and providing a user-friendly interface when working with complex projects
- Used Rockwell PLC software to create custom production line visualizations for clients

ACTIVITIES & LEADERSHIP

Low Strung, *Music Director*

Jan 2019 – Present

- Organize and lead weekly rehearsals for student-run, internationally-touring cello rock ensemble
- Recorded musicians in a studio setting for group album, organizing takes and preparing audio for mixing
- Pushed for more arrangements of new music and revived overlooked ones, doubling number of new pieces per concert and increasing artist diversity

Yale Daily News, *Podcast Producer, Sound Engineer, Composer, Contributing Writer*

Yale Game Developers, *Treasurer, Programmer, Music Producer*

SKILLS

- Programming Languages:** C/C++/C#, Python, MATLAB, HTML/CSS/JavaScript
- Tools & Software:** JUCE, Shell Scripting, Unity/Unreal Engine/Wwise, OpenGL, PyTorch, Max/MSP, Spatial Audio, DAWs, Dante
- Foreign Languages:** Advanced Chinese (Mandarin)
- Other Interests:** Music Performance/Composition/Production, Cooking & Culinary History