Will Rinkoff

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EDUCATION

- **California Institute of the Arts**   *Masters of Music Technology*
  - Audio/Video AI Pipelines, Music Information Retrieval, Neural Audio Synthesis, Interface Design

- **Carnegie Mellon University**   *Bachelor of Computer Science and Music Technology*
  - Algorithms, Low Level Computer Systems, Linear Algebra, Digital Signal Processing, Machine Learning, QA, Audiovisual Composition, Experimental Data Capture

SKILLS

Linux: 5+ years daily use, regularly assisted/debugged the systems of my peers
Languages: Javascript/Typescript, Python, C/C++, Java, Lua, Haskell, Rust, Bash
Developer Tools: Git, Vim, Make, gdb, Valgrind, Stack + Cabal
Frameworks: React, Vue.js, Node.js, Docker, Firebase, Amazon Web Services, Pandas, Godot
Software: Comfy UI, Max/MSP, Touchdesigner, Adobe Suite, Ableton

EXPERIENCE

- **The Builders Association (Award Winning Theater Company)**   *May-October 2024*
  Fullstack Developer   New York City
  - Architected and implemented a Twitter clone using React.js and Firebase for a live theatrical production
  - Developed a robust event-driven cueing system for interactive content during the performance
  - Collaborated with directors in an agile environment to deliver features under strict production deadlines

- **Penrose**   *Febuary-July 2021*
  Software Engineer   Pittsburgh, PA
  - Enhanced functionality of a React-based mathematics visualization platform with new interactive features
  - Designed and implemented user interfaces for a domain-specific language following modern UX principles
  - Engineered critical components of the compilation pipeline that transforms user code into SVG diagrams

- **Neort.io**   *July-August 2020*
  Frontend Developer   Tokyo, Japan (Remote)
  - Led end-to-end development of a high-impact feature from concept to production deployment within one month
  - Implemented a GLSL texture management system using Vue.js, WebGL, and RESTful API integration via Axios
  - Maintained effective cross-cultural communication with international development team across time zones

- **Resonant Cavity**   *May-August 2019*
  Audio Processing / Machine Learning Intern   Minneapolis MN
  - Developed Python-based tools for audio analysis and synthesis utilizing Keras deep learning framework
  - Implemented and optimized neural network architectures for vocal analysis and synthesis applications
  - Created comprehensive technical documentation for proprietary software tools and workflows

SELECTED PROJECTS

- **lua_tidavim**   *Laptop Performance Interface*
  - Engineered a dynamic performance interface for the Tidalcycles sequencing language with real-time feedback
  - Received international recognition for innovative approach to human-computer interaction, resulting in invitations to arts technology conferences across the US, Europe, and Asia
  - Technologies used: Neovim, Lua, Tidalcycles, Supercollider, and Docker for cross-platform compatibility

- **'Look Closely'**   *Web-Based Experimental Installation Work*
  - Developed a web-based interactive installation utilizing iris tracking for audio synthesis control with reactive Three.js/WebGL visualizations
  - Architected a modular system for creating high-performance web-based instruments using computer vision and gesture recognition
  - Technologies used: Three.js, WebAssembly, Faust Audio, MediaPipe, HTML/JavaScript framework

- **Lissajous A/V Synth**   *Software Audio Synthesizer*
  - Designed and implemented a real-time audio synthesis pipeline that transforms video data into audio signals
  - Technologies used: Python, Pandas, XServer, C, FFmpeg, OBS

RECOGNITION

- **International Conference on Live Coding**
  Utrecht (Netherlands) 2023 , Shanghai (China) 2024

- **Grants**   *BXA Grant (*2), CFA Grant, Undergraduate Research Grant, School of Music Travel Grant*