Will Rinkoff will.rinkoff@gmail.com +1 651-280-9119

Education

- **California Institute of the Arts** *Masters of Music Technology*
  - Digital Signal Processing, Music Information Retrieval, Agentic AI, Interface Design
- **Carnegie Mellon University** *Bachelors of Computer Science and Music Technology*
  - Algorithms, Low Level Computer Systems, Linear Algebra, Digital Signal Processing, Machine Learning, QA, Audiovisual Composition, Experimental Data Capture

Experience

- **California Institute of the Arts** *September 2024 - Present*
  Instructor, Teaching Assistant Valencia, CA
  - Head TA for the Music Technology department, advised/mentored students in their thesis projects
  - topics included digital signal processing, music information retrieval, instrument design, and more
  - Created and taught course on using Tidalcycles and Supercollider live coding
- **The Builders Association (Award Winning Theater Company)** *May-October 2024*
  Fullstack Developer New York City
  - Designed and implemented a Twitter clone using React.js and Firebase for a live theatrical production
  - Developed a low latency system for managing interactive audio-visual content on the audience's devices during the performance
  - Collaborated with actors and directors in a high pressure environment to deliver features under strict 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
- **Resonant Cavity** *May-August 2019*
  Audio Processing / Machine Learning Intern Minneapolis MN
  - Developed pipelines for audio analysis and synthesis utilizing the 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

- **Interface Design Research for Livecoding**
  - Designed and implemented 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 and technology conferences across the US, Europe, and Asia
  - Technologies used: Neovim, Lua, Tidalcycles, Supercollider
- **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, Barcelona (Spain) 2025
- **Grants** *BXA Grant (*2), CFA Grant, Undergraduate Research Grant, School of Music Travel Grant*

Skills

Linux: 5+ years daily use, regularly assisted/debugged the systems of my peers
Languages: Javascript/Typescript, Python, C/C++, Java, Haskell, Lua, Rust, Bash
Frameworks: React, Node.js, Amazon Web Services, Pandas, Numpy,JUCE, DSPy, Langchain, Docker
Environments: Max/MSP, Touchdesigner, Supercollider, Comfy UI, Unity, Adobe Suite
Areas of Interest: Digital tools for live performance, Audio-Visual, Interaction Design