Garrett Eckl

12 Chippenham Dr, Penfield, NY 14526
www.garretteckl.com | https://github.com/geckl
garretteckl music@gmail.com
(585) 643-0400

I am a musician and programmer who specializes in audio software development. My career began with a simple question: how do computers make sound? Years of digging deeper into this question have taken me in many exciting directions, and somewhere along the way I accidentally became a full stack developer. I have a deep understanding of music technology, and a passion for creating commercial-grade software that can make these technologies more accessible to a wide range of music lovers.

Education

Peabody Conservatory, Johns Hopkins University, Baltimore, MD 2022
M.M. Computer Music – Research and Technology Track, **GPA: 3.9**
Sam Pluta, Geoffrey Wright, Norah Lorway

San Diego State University, San Diego, CA 2020
B.M. Music Recording Technology and Audio Design, *summa cum laude,* **GPA: 3.8**
Joseph Waters, Chris Warren, Nakul Tiruviluamala

Monroe Community College, Rochester, NY 2018
A.S. in Liberal Arts, **GPA: 4.0**

Work Experience

Associate Director of Engineering, RIFFIT Inc. 2022-Present
Software Developer 2020-2022

- Member of small software team developing RIFFIT, a music learning software for real time text-to-song creation
- Develop an algorithmic composition system capable of synthesizing music in a variety of genres
- Develop and maintain RIFFIT's React.js front-end application and Node.js back-end applications
- Conduct music research in the fields of algorithmic composition and machine learning
- Lead the company's quality assurance procedures
- Manage a small group of part-time developers and interns

Music Technologist, Freelance 2016-Present

- Create audio/MIDI plug-ins using the JUCE framework
- Compose music for film and multimedia
- Design schematics for commercial-grade recording studios
- Provide live sound reinforcement for theater and festival performances

Skills

Music

- Music programming languages: *Max/MSP, Csound, SOUL, Supercollider*
- Audio plug-in development (w/ JUCE)
- Digital signal processing: *transforms, FIR filter design, interpolation techniques*
- Algorithmic composition
- Creative coding APIs: *Processing, Arduino, Web Audio*
- Songwriting & music production

Programming

- Programming languages: *C/C++, JavaScript/Typescript, Python, MATLAB*
- HTML/CSS
- Web app development: *Node.js, React, Electron*
- Project management tools: *Git, Pivotal, Jenkins CI/CD, Notion*
- Cloud development: *Google Cloud Run, Firebase, Docker*
- UI/UX: *Chakra, Photoshop, Figma*

Developed Software

EZDSP, C++/SOUL 2022

EZDSP is a platform for creating custom audio effects from directly within a DAW. Using JIT compilation, users can modify both the DSP algorithms and the GUI design of this plug-in from directly within the plug-in itself.

Real Time Humanizer, C++ 2021

Real Time Humanizer is a MIDI FX plug-in for generating expressive MIDI performances. Users can apply randomness to their MIDI tracks, and also place emphasis on certain beats, creating recordings that more closely mirror that of a real musician.

The Modulation Equation, JavaScript, C 2020

The Modulation Equation is an algorithm for determining the most effective modulation between two given keys. It was written as part of a larger system for algorithmic composition.

Conference Presentations

EZDSP: From Production to Programming, 2022
Korean Electro Acoustic Music Society Annual Conference
Seoul, South Korea