

Isaac Newcomb

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EDUCATION

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- Cornell University**, College of Engineering, Ithaca, NY May 2024
Master of Engineering, Mechanical Engineering | Design Focus | GPA: 3.665
- Adirondack School of Recording Arts**, Plattsburgh, NY May 2025

EXPERIENCE

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- Artist, Producer, Engineer** — Cornell Music Production Club, Ithaca, NY November – May 2024
- Produced, recorded and mixed two songs on CMP's second album, *Time Waits for No One*
- Founding Engineer, Kinetic Co-lead** — Combat Robotics at Cornell, Ithaca, NY October 2019 – May 2024
- Designed and manufactured four 12-lb robots over the years, reaching semifinals at National Havoc Robot League
 - Built camaraderie and dedication in the Kinetic subteam through communication, accountability, and good vibes
 - Solidified CRC's organizational structure: helped define subteams, projects, timelines, and best practices
 - Developed clean, flexible templates for documentation, BOMs, budgeting, team rosters, part drawings, and more
 - Wove clear requirements into our design practices, striving for creativity, manufacturability, and serviceability
- Sound Designer** — Cornell Performing and Media Arts, Ithaca, NY September – November 2023
- Crafted evolving soundscapes for *Peerless* by Jiehae Park, running cues with the clip launcher in Bitwig Studio
- Mechanical Design Engineer Intern** — ASML, Wilton, CT May – August 2023
- Revealed ways to speed up a sub-micrometer-precision gripper, designing a test rig to simulate in-situ forces
 - Integrated mechatronics to control tests, improving precision by reducing human involvement
 - Presented design reviews to 20+ stakeholders; composed a **30+ page report** detailing my process and results
- Keyboardist, Producer, Engineer** — The Fuse, Ithaca, NY September 2021 – May 2023
- Co-wrote, recorded, and mixed 3AM in the Atrium, our first single
 - Developed stage plots and input lists for our live shows, serving as the band's technical contact
 - Won 2nd place at Cornell's Big Red Battle of the Bands, culminating in performances at the Slope Day festival
- Head Design Engineer, 3D Printing Expert** — Tri-lakes vs COVID-19, Lake Placid, NY March – October 2020
- Merged features of existing 3D-printable face shield visors, prioritizing safety and proven success
 - Iterated with feedback from local healthcare professionals, improving comfort, reliability, and sanitation
 - Optimized hobbyists' output: **over 4500** face shields distributed to the Tri-lakes area in the height of COVID

SELECTED PROJECTS

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- Ice Keys** — Melodica-like wind instrument, isaacdnew.com/projects/ice-keys September 2018 – Present
- Created 3 functional prototypes of a portable, acoustic, flute-sounding keyboard instrument (a 4th is on the way)
 - Pushed the limits of thermoplastic FFF 3D printing (almost all parts are 3D printed)
 - Wrote scripts with Inventor's iLogic to parametrically generate complex, note-varying geometry
- Gigging Platform** — Keyboard-shaped box for flexible, laptop-based live performance November– May 2024
- Designed to rest on a keyboard stand and fit two 1U rack modules side-by-side
 - Currently houses Focusrite 18i20, power strip, and USB cables routed for quick setup and teardown
 - A laptop and two Roli Seaboard Blocks mount on top with velcro and magnets for worry-free synth mayhem
- SnapSlide** — Self-tuning slide whistle, isaacdnew.com/projects/snapslide August – November 2021
- Used FFT to get an Arduino to identify pitch, automatically adjust the slide, and keep notes in key
 - Created as part of Mechatronics class: budget for parts beyond the provided kit was \$20

SKILLS

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- Studio:** Drum setup and teardown, cable wrapping, miking for acoustic and electric sources, studio etiquette
- Software:** DAWs (Logic, Pro Tools, Ableton, Bitwig Studio), CAD (Fusion, Inventor, Siemens NX, FreeCAD); Engineering Simulation (ANSYS, COMSOL); Coding (MATLAB, Python, Arduino C++, Javascript, HTML/CSS).
- Fabrication:** Manual lathes and mills; 3-axis CNC; 3D printers; MIG welding; hand/power tools; electronics (soldering, crimping, multimeters, oscilloscopes, etc.).