NATHAN BLAIR

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EDUCATION

University of California, Santa Barbara
***Master of Science in Media Arts and Technology* (Chancellor's Fellowship)** May 2023
Real-time music software, 3D user interfaces, Granular Synthesis GPA: 4.0
Committee: Curtis Roads, Jennifer Jacobs, Karl Yerkes

University of California, Berkeley
Bachelor of Science in Electrical Engineering and Computer Science May 2020
Machine Learning, Linear Algebra, Linear System Theory, Probability GPA: 3.821

EXPERIENCE

Birdsong Audio & nthn.gumroad.com | Founder

August 2021 – Present

- Designed, engineered, marketed, and sold music production software (VST3, AU, Max for Live)
- Built infrastructure for high performance realtime DSP given programs with thousands of parameters
- Developed custom 3D engines for novel user interfaces using OpenGL
- 33000+ users, 15 products
- Made one of the "Top 10 Plugins of 2025" via popular YouTuber Andrew Huang

Lunacy Audio | Digital Signal Processing Engineer

May 2023 – June 2026

- Lead C++ engineer
- Worked on BEAM, their audio FX suite, and NOVA, their web-and-native interoperability platform
- Optimized performance sensitive code by benchmarking, profiling, and analyzing ARM64 disassembly
- Highlight: Developed granular delay engine capable of rendering hundreds of virtual particles
- Highlight: Implemented real time zero latency non-uniform convolution algorithm

NASA JPL & Caltech | Computer Vision Intern

Summer 2019

- Compared machine learning models for classifying near earth objects (Linear, MLP, Siamese Nets, ResNet)
- Implemented visualization methods for model explainability (SmoothGrad saliency maps)

Summer 2018

- Trained a faster-rcnn neural network to detect bright comets in infrared data taken by the WISE satellite.
- Built a library for object detection on astronomical data that extended Tensorflow's object detection API.

Summer 2014, 2015

- Performed daily quality assurance checks on minor planet candidates.
- Discovered previous undetected comets by "stacking" candidate images.
- Co-Authored "The NEOWISE-Discovered Comet Population and the CO+CO2 Production Rates"

UC Berkeley | Machine Learning and Control Research

January 2018 – June 2019

- Combined control algorithms (LQR) with computer vision for path planning
- Utilized simulated environments to increase data-efficiency
- Tested our algorithm on "turtlebot" robots and compare the results to established algorithms
- Considered safety guarantees for complex, risky and poorly understood real world environments.

EXTRAS

Coding Languages: C++, Python, Javascript
Software/Tools: Git, Neovim