

Ezra Buchla

audio software developer

Los Angeles, CA

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github.com/catfact

Hello! I'm a musician and audio software developer, with a deep background in music technology. My work over the past 20 years has included hardware and software product development, as well as a diverse array of custom tools for individual artists and researchers. I've also done significant work in the field of hearing-assistance technology, in both statistical and analytical mathematical modeling across a variety of domains, and in AAA game development. My approach to problem solving balances creativity with pragmatism, considering all layers of requirements, always questioning architectural assumptions, and matching tasks with appropriate tools and techniques. I'm also a strong technical writer and collaborator, with a passion for sharing knowledge and learning from others. My life goal is ultimately to connect people to enriching, empowering, exciting sonic experiences - variously as a toolmaker, a toymaker or an assistive technologist.

Domain Specialties

Audio Programming	Music Technology	Digital Signal Processing	Acoustics	Psychoacoustics
Audiology	Machine Learning	Data Science	Web Development	Mobile Development
Game Development	Embedded Systems			

Programming Languages

C++	C	Python	Lua	JavaScript	Swift	Objective-C	C#	Java	Dart	MATLAB	R
SuperCollider	Max/MSP	FAUST	HTML	CSS							

Frameworks and Platforms

Linux	Embedded Linux	JUCE	Android	iOS	Jinja	Flask	Pandas	PyTorch	Jupyter
Vue	Node	Express	WebAudio	WWISE	Unity	Arduino	daisySP	STM32	AVR32
8051	RP2040	Blackfin							

Relevant Non-coding Skills

Audio Production	Music Theory	Music Composition	Music Performance	Electronics
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Experience

Ubisoft

Core Engineer

2020/07 – 2024/09

- extended the audio capabilities of Ubisoft's in-house game engines
- shipped multiple AAA titles on multiple platforms
- developed new features for the WWISE audio middleware layer
- implemented gameplay features using realtime, low latency audio feature detection
- implemented non-realtime music classification algorithms and media pipelines
- created audio synthesis and processing effects for game audio design

SonicCloud

Principal Scientist, DSP Architect

2017/07 – 2020/07

- developed and optimized hearing-assistance processing algorithms
- designed and evaluated self-directed audiological testing heuristics
- created acoustic profiles of consumer audio devices
- optimized service architecture for personalized assistive processing across platforms

Sensing Places

Software Engineer

2016/07 – 2017/07

- developed interactive audiovisual installations for public spaces
- extensive use of computer vision, geolocation and telemetry

Buchla and Associates

Associate

2003/06 – 2012/07

- developed firmware for modular synthesizers and MIDI controllers
- designed hardware testing and calibration procedures
- assembled, tested, shipped, and supported synthesizer hardware
- managed production and inventory

Open-Source Projects of Note

norns

<https://monome.org/norns>

lead software developer

2017/01 – 2020/01

open-source, embedded, linux-based musical coding platform (Raspberry Pi)

aleph

<https://monome.org/aleph>

lead software developer

2013/01 – 2014/01

open-source, bare-metal, customizable music device (AVR32 and Blackfin)