

Max Stopyra

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PROFILE

Composer, producer, and sonic arts creator with a technical foundation in electrical and computer engineering. Blends experimental sound design, modular synthesis, digital instrument building, and contemporary composition with expertise in embedded systems, DSP, and machine learning. Seeks to explore the intersection of acoustic, electronic, and computational creativity through postgraduate study in Composition/Sonic Arts at Victoria University of Wellington. Interdisciplinary background enables the development of novel sound worlds, custom digital tools, and technologically driven performance systems.

EDUCATION

Olin College of Engineering, Needham, MA

B.S. in Electrical and Computer Engineering

Aug 2020 – May 2024

Coursework: Signals and Systems, Power Electronics, VLSI, Software Design, PCB Design/Fabrication. Recipient of half-tuition merit-based scholarship emphasizing sustainability, embedded systems, and human-centered design.

Victoria University of Wellington, Wellington, New Zealand

Minor in Jazz Studies & Music Production

Jan 2023 – June 2023

Developed skills in composition, jazz performance, audio engineering, electronic sound design, and music technology while studying full-time as a musician and producer.

ENGINEERING & RESEARCH EXPERIENCE

Machine Learning Engineer, Integrated Solutions International, LLC – Winston Salem, NC

2024 – Present

- Design and deploy advanced computer vision models with scalable data pipelines and GPU-accelerated training, optimized for edge, mobile, and cloud inference.
- Engineer specialized AI solutions using cutting-edge transformer, diffusion, and multimodal architectures to solve complex real-world problems.

Applications Engineering Intern, Analog Devices, Inc. – Wilmington, MA

2024

- Research and validate use cases for Gallium Nitride (GaN) semiconductor technology for advanced power conversion systems.
- Design, lay out, and fabricate GaN-based converters in Allegro for long-term reliability testing of FETs, gate drivers, and controllers.

SFQ Circuit Design Engineering Intern, MIT Lincoln Laboratory – Lexington, MA

May 2022 – Sept 2022

- Designed and tested single flux quantum (SFQ) circuits for quantum computing nanosystems using Cadence and Virtuoso.
- Developed LISP-based design tools that improved SFQ circuit layout workflows and reduced engineering overhead.

Telematics Test Engineering Intern, Nissan – Farmington Hills, MI

Oct 2020 – Sept 2021

- Conducted EV telematics system testing using TestRail and internal diagnostic software to ensure stable vehicle-cloud communication.
- Designed improved test hardware for prototype and production-level EV telematics modules supporting expanding EV infrastructure.

MUSIC & CREATIVE EXPERIENCE

Founder & Music Producer, Broken Gourd Records, LLC – Advance, NC

2025 – Present

- Produce and release original music from concept to master, overseeing songwriting, recording, mixing, and distribution across major platforms.
- Lead creative direction, branding, and marketing while developing modern, high-quality productions using contemporary audio and studio technologies.

Composer, Producer, and Audio Engineer, Bruthr Pudge – Independent/Streaming Platforms

Ongoing

- Create original works exploring jazz harmony, electronic textures, and experimental sound design using modular synthesis and custom digital tools.
- Integrate bespoke instruments, live performance techniques, and synthesis workflows into recorded and collaborative projects.

COMMUNITY & NONPROFIT LEADERSHIP

Board Member, The Weston Award for Nonprofit Excellence (2025 – Present)

- Guide evaluation and selection for an annual award recognizing the most effective nonprofits in Forsyth County, emphasizing leadership strength, financial stewardship, and measurable community impact.
- Support organizational excellence across the nonprofit sector by shaping assessment processes that promote strategic vision, operational effectiveness, and long-term community benefit.

Production Assistant, Blue Ridge Parkway Foundation – Blue Ridge Music Center (2025)

- Support concerts and programs through professional stage operations and high-quality live sound reinforcement, contributing to performances by leading bluegrass, old-time, blues, and Americana artists.
- Strengthen cultural preservation efforts by assisting programs that present and sustain the musical traditions of the Blue Ridge region in partnership with the National Park Service.

PROJECTS

- 3D-Gesture MIDI Controller (3ddie) – Built a standalone gesture-controlled digital instrument using capacitive sensing, embedded firmware, and custom PCB design.
- Aardvark Audio – Designed digital/virtual synthesizers and audio tools in C++ with modern DSP, plugin frameworks, and user-centered sound design.
- FPGA-Based Sigma-Delta DAC – Implemented and validated a first-order sigma-delta converter in SystemVerilog.
- Analog & Digital VLSI Work – Completed CMOS design projects using Magic, Cadence, LVS, Xschem, and SPICE for both analog and digital integrated systems.
- Modular Solar System – Contributed to design and control system architecture for a modular renewable energy platform.

TECHNICAL SKILLS

Machine Learning & AI: Transformers, diffusion models, multimodal architectures, PyTorch, ONNX, GPU-accelerated pipelines.

Audio & Sonic Arts: Modular synthesis, DSP, electronic composition, sound design, mixing, mastering, audio plugin development.

Programming: Python, C, C++, Rust, MATLAB, Verilog, SystemVerilog, LISP.

Hardware & Tools: KiCad, Altium, Cadence, SPICE, embedded systems, PCB design, power electronics, quantum-scale circuit design.

AWARDS, LEADERSHIP & ACTIVITIES

- Olin College Half-Tuition Merit Scholarship for excellence in Electrical and Computer Engineering.
- Eagle Scout – leadership, large-scale project planning, and community organization.

LANGUAGES & INTERESTS

Languages: Spanish (conversational).

Interests: Sonic arts, electroacoustic composition, renewable energy, modular synthesis, experimental music technology, backpacking, and jazz.