# Victor Shepardson

victor-shepardson.github.io

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**Researcher**
**Developer**
**Musician**

## Education

### University of Iceland / PhD student, Cultural Studies
September 2021 - present, Reykjavík, Iceland
Practice-based research into new musical instruments and phenomenology of AI in the Intelligent Instruments Lab.

### Dartmouth College / MA Digital Musics
September 2014 - June 2016, Hanover, NH, USA
Coursework including computer music composition, animation, psychoacoustics, music information retrieval, data visualization, machine learning and deep neural networks. Live sound and performance in the contemporary music ensemble.

### University of Virginia / BA Computer Science
August 2010 - May 2014, Charlottesville, VA, USA
Highest distinction, Phi Beta Kappa. Undergraduate thesis on texture synthesis in computer graphics. Advanced coursework in computer music, computer graphics, and programming languages.

## Work

### Freelance Creative Software Developer
2014 - Present
- Generative MIDI software for magnetic resonator piano in Arca's *The Light Comes in the Name of the Voice*, Bourse de Commerce Paris 2024 and Okayama Art Summit 2025
- Software development and model training for *Tungnaá*, a musical instrument with Jonathan Reus, and *Bla Blavatar vs Jaap Blonk,* Prix Ars Electronica 2025 award of distinction
- Software, sound design and installation for *Pond Brain*, a work by Jenna Sutela in three editions for Copenhagen Contemporary and Helsinki Biennial 2023, Castello di Rivoli 2025
- Speech-synthesis software and installation for *Deviant Chain,* a concert installation with Stefan Maier and Alan Segal at Ultima Festival 2019 Oslo
- Max/MSP speech-to-control voltage converter for Max Eilbacher
- Generative video software for the Synesthesia music visualizer licensed to platform and individuals
- Concert telephony system for Nathan Davis's composition *a Sound uttered, a Silence Crossed* (2014)

### Machine Learning Engineer
Ntrepid, 2019 - 2021, Herndon, VA
Research & development of deep neural text-to-speech and vocoding systems. Reproduced and extended state-of-the art generative models using PyTorch.

### Teaching Assistant
Dartmouth College, 2015 - 2016
University of Virginia, 2012 - 2014
Grading and office hours for courses in Machine Learning, Sonic Arts, Computer Architecture, Discrete Math, Algorithms, and Computer Graphics. Live sound for numerous musical performances.

### Research Intern
Arqball LLC, 2013, Charlottesville, VA
Researched algorithms and in-browser deployment for editing 360° product photography.

# Publications

**Shepardson, V**. & Stefánsdóttir, H. & Magnusson, T. 2025. Evolving the Living Looper: Artistic Research, Online Learning, and Tentacle Pendula. In Proc. *International Conference on New Interfaces for Musical Expression*.

**Shepardson, V.** & Magnusson, T. 2025. dit dah delta token: Statistical Models of Music and Language Interfering via Morse Code. In Proc. *International Computer Music Conference*.

Armitage, J., & **Shepardson, V.**, 2024. Augmenting the Expressivity of the Notochord Generative MIDI Model for Arca's "The Light Comes in the Name of the Voice" Magnetic Resonator Piano Installation. In Proc. *Artificial Intelligence and Music Creativity*.

**Shepardson, V**., Reus, J. & Magnusson, T., 2024. Tungnaá: a Hyper-realistic Voice Synthesis Instrument for Real-Time Exploration of Extended Vocal Expressions. In Proc. *International Conference on New Interfaces for Musical Expression*.

Privato, N., **Shepardson, V**., Lepri, G. & Magnusson, T., 2024. Stacco: Exploring the Embodied Perception of Latent Representations in Neural Synthesis. In Proc. *International Conference on New Interfaces for Musical Expression*.

Skach, S., **Shepardson, V.** & Magnusson, T., 2024. About TIME: Textile Interfaces for Musical Expression. In *Proceedings of the International Conference on New Interfaces for Musical Expression*.

Armitage, J., **Shepardson, V**., Crozzoli, M. & Magnusson, T., 2024. Commingling Artificial Life and Interactive Machine Learning in Diffractive Artistic Research Practice. In Proc. *ALIFE 2024*.

Armitage, J., Privato, N., **Shepardson, V.**, & Gutierrez, C. B. 2023. Explainable AI in Music Performance: Case Studies from Live Coding and Sound Spatialisation. In *XAI in Action: Past, Present, and Future Applications*.

Pierce, E., **Shepardson, V**., Armitage, J., & Magnusson, T. 2023. Bela-IREE: An Approach to Embedded Machine Learning for Real-Time Music Interaction. In Proc. *Artificial Intelligence and Music Creativity*.

**Shepardson, V**. & Magnusson, T. 2023. The Living Looper: Rethinking the Musical Loop as a Machine Action-Perception Loop. In Proc. *International Conference on New Interfaces for Musical Expression*.

**Shepardson, V**., Armitage, J., & Magnusson, T. 2022. Notochord: a Flexible Probabilistic Model for Embodied MIDI Performance. In Proc. *Artificial Intelligence and Music Creativity*.

Franzson, D. B., **Shepardson, V**., & Magnusson, T. 2022. Autocoder: a Variational Autoencoder for Spectral Synthesis. In Proc. *International Computer Music Conference*.

Armitage, J., Magnusson, T., **Shepardson, V**. & Ulfarsson, H., 2022. The Proto-Langspil: Launching an Icelandic NIME Research Lab with the Help of a Marginalised Instrument. In Proc. *International Conference on New Interfaces for Musical Expression*.

**Shepardson, V.**, 2016. Audiovisual Synthesis with ABSTRACT/CONCRETE. In Proc. *4th International Workshop on Musical Metacreation (MuMe 2016)*

# Talks

New Interfaces for Musical Expression Australian National University, Canberra, June 2025
Presentation on *Evolving the Living Looper: Artistic Research, Online Learning, and Tentacle Pendula*

International Computer Music Conference Boston, June 2025
Presentation on *dit dah delta token: Statistical Models of Music and Language Interfering via Morse Code.*

CAMP online, December 2024
Guest lecture on artworks with machine learning for course: Inhuman Listening with Stefan Maier

Haizebegi Festival Abaola, Pasaia, October 2024
Presentation and demo *Learning AI With Txalaparta / Aprendiendo IA con Txalaparta*

Ohio State University March 2024
Talk with Sophie Skach on the Intelligent Instruments Lab and the e-textiles no-input mixer

Knit Futures Kent State University, March 2024
With Sophie Skach, demonstration on the e-textiles no-input mixer

Sonic Arts Research Center Queen's University Belfast, November 2023
Talk with Franziska Schroeder and Federico Reuben, on improvisation with neural audio synthesis

New Interfaces for Musical Expression Centro de Cultura Digital, Ciudad de México, June 2023
Presentation on *The Living Looper: Rethinking the Musical Loop as a Machine Action-Perception Loop*

Hugarflug Research Festival  Iceland University of Arts, Reykjavík, February 2023
Panelist in a discussion of AI and the art world

Embodied AI Workshop, University of Oslo and online, November 2022
Short talk about the lived experience with AI, MIDI models, and micro-phenomenology

AI Music Creativity online, September 2022
Presentation on *Notochord: A Flexible Probabilistic Model for Embodied MIDI Performance*

Ómar Festival Verksmiðjan Hjalteyri, Iceland, July 2022
Workshop demonstrating the Proto-Langspil, performance with festival attendees

Moving Strings Symposium Iceland University of Arts and online, December 2021
Talk with live demonstration of no-input mixing board and SuperCollider

Hybrid Live Coding Interfaces online, November 2021
Presentation on *Sound Seed Automata,* a SuperCollider interface for programming sound with sound

Musical Metacreation Workshop at ICCC Pierre and Marie Curie University, Paris, June 2016
Presentation on *Audiovisual Synthesis with ABSTRACT/CONCRETE*

## Academics + Open Source

**Session Chair,** New Interfaces for Musical Expression 2025
**Session Chair,** International Computer Music Conference 2025
**Co-mentor,** Google Summer of Code (Python Foundation) 2025
**Reviewer,** International Computer Music Conference 2025
**Reviewer,** New Interfaces for Musical Expression 2025
**Reviewer,** Routledge book proposal, 2024
**Session Chair,** Artificial Intelligence and Music Creativity 2024
**Reviewer,** Tangible and Embodied Interfaces 2024
**Reviewer,** New Interfaces for Musical Expression 2024
**Reviewer,** Transactions on Computer-Human Interaction, 2023
**Area Chair,** Artificial Intelligence and Music Creativity 2023
**MS Thesis External,** Karl Jóhannsson, University of Reykjavík Computer Science, 2023
**Co-mentor,** Google Summer of Code (BeagleBoard) 2022
**Workshop Organizer**, New Interfaces for Musical Expression 2022
**MS Thesis External,** Kim Cosmo Ström, University of Iceland Computer Science, 2022
**Reviewer,** Nordic Sound and Music Computing 2021

## Concerts + Installations

**IIL x Spirits in Complexity @ 12 Tónar**, Reykjavík 2025. No-input mixer, non-sense DSP,  notochord
**Pikknikk @ The Nordic House**, Reykjavík 2025. No-input mixer, non-sense DSP, playing with the birds
**S27,** Hafnarhaus, Reykjavík 2025. No-input mixer, non-sense DSP,  no-one playing along
**OFUR-ORGEL í Fríkirkjan**, Reykjavík 2025. *Haunting* for Notochord and church organ, with Julie Zhu
**ErkiTið Festival**, Reykjavík 2024. *dit dah delta token* for live coded language models
**Morse Code @ Lofskeytastöðin**, Reykjavík 2024. *dit dah delta token* for live coded language models
**Snjallfiðlutónleikar @ Mengi**, Reykjavík 2024. Computer and archives with Halla Steinunn Stefánsdóttir
**NIME 2024,** Utrecht. *Learning Machine Knit Minput Intertextiles* with Sophie Skach
**IIL Diffractive Sonic Dialogues @ Mengi**, Reykjavík 2024. Tabletop guitar and Living Looper
**Basque-Icelandic Symposium**, Djúpavík 2024. Analog electronics, metal trash, herring oil cistern
**Auto Eater Aether Theater @ R6013**, Reykjavík 2024. No-input mixers and software with Gianluca Elia
**ErkiTið Festival**, Reykjavík 2023. Living Looper with Intelligent Instruments Ensemble
**Textile Intersections,** Loughborough University, London 2023. No-input textiles with Sophie Skach
**Notochord Arcs & Scrambled Signals @ AIMC 2023,** University of Sussex. With Nicola Privato

**Notochord Arcs & Scrambled Signals @ Mengi,** Reykjavík 2023. With Nicola Privato
**Ómar Festival @ Verksmiðjan Hjalteyri** 2023. Living Looper and guitar with Thor Magnusson
**Organic Intelligence @ Hallgrímskirkja**, 2023. *Associative Memories* for MIDI church organ and archives
**Living Art Museum**, Reykjavík 2023. Sonic batons with Majella Clarke and Nicola Privato
**Living Loops @ Mengi**,  Reykjavík 2022. Improvisation with guitarists and Living Looper
**Vic & Bob @ Mengi**,  Reykjavík 2022. Laptop, no-input mixer and modular duo with Bob Hermit
**INNI showcase @ Iceland Airwaves**, Rekjavík 2022. Jam with Intelligent Instruments Lab members
**Ómar Festival @ Verksmiðjan Hjalteyri** 2022. Proto-langspil group improvisation
**Sonic Fluidities**, UCSD (remotely) 2018. Video projection for Clara Latham/New Pope keynote
**Out of the Blue Too Gallery**, Cambridge MA 2016. Video projection with New Pope and Rangda
**DAX 2016**, Dartmouth College, *Halting Problem* for Turing machines, TVs and speakers
**ICMC 2015**, Denton TX, *Studies In Being Alive I-III* for fixed media
**Twisted Branch Tea Bazaar**, Charlottesville VA 2014. Laptop and guitar improvisation