CV

Serkan Sevilgen

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Serkan Sevilgen is an Istanbul-based computer programmer, electroacoustic music composer, and researcher. He is the co-founder of the sound art initiative *Soundinit*; co-founder of the *MIAM Gendy Ensemble*, which investigates the relationship between roles of the instrument builder, the composer, the performer, and the audience; and founder of the networked telematic music ensemble *WORC*. His musical works and research focus on algorithmic music, machine learning, multichannel diffusion, sonification, networked music systems, web audio, live coding, stochastic procedures, and soundscapes. Sevilgen has presented his works at various international events, including ICMC, NIME, SMC, IS-MIR, the Xenakis Networked Performance Marathon, and the New York City Electroacoustic Music Festival.

Education

Degree	Institution	Location	Years
PhD	Istanbul Technical University / MIAM/Sonic Arts	Istanbul	2024 Spring
MA [1]	Yildiz Technical University/Music and Performing Arts	Istanbul	2019 - 2023
MA [2]	Istanbul Technical University/MIAM/Sonic Arts	Istanbul	2019 - 2021
BA	Yildiz Technical University/ Music Technology	Istanbul	1999 - 2003

Work

Title	Company	Location	Years
Guest Lecturer [3]	Bahcesehir University	Istanbul	2023 Fall
Director of Engineering	Temblor, Inc	San Francisco	2014 -
Senior Software Developer	Beşiktaş Football Club	Istanbul	2012 - 2018
Senior Software Developer	Bona Digital Agency	Istanbul	2011 - 2012
Senior Software Developer	Freelance (E-commerce)	Istanbul	2011 - 2011
Senior Software Developer	Modanisa (E-commerce)	Istanbul	2011 - 2011
Senior Software Developer	Porland (E-commerce)	Istanbul	2007 - 2010
Founder	Dijital Pazar (E-commerce)	Istanbul	2003 - 2007

Skills

Programming
Linux, Python, JS, Go, PHP, SQL, AWS, Big Data, Docker, GIS, Machine Learning
Music-specific Programming
Csound, SuperCollider, MaxMSP, Arduino, Bela, Lilypond, Flucoma, RAVE
Music
Spatial audio, sonification, web audio, networked music, live coding, stochastic procedures

[1] Thesis title: "A Multiscale Composition Method Based on Image Sonification"
[2] Project title: "A Web-Based Platform for Telematic Collaborative Electronic Music Performance"
[3] Designed and taught the course "Programming for Music and Audio."

Software Projects

- **Timbre-Oriented Mapping** (*early stage*) This project presents a timbre-based mapping method for Digital Musical Instruments using neural networks. By analyzing synthesized sounds with MFCCs, reducing them via VAEs, and training an MLP to link timbre and synthesis parameters, the system enables expressive, many-to-many mappings that mimic the nuanced behavior of acoustic instruments. This approach makes DMIs more intuitive, allowing performers to shape sound through timbre rather than arbitrary parameter assignments. See more at the Sonified Symposium book of abstracts.

- **Remote OSC** Remote OSC is an open-source Node.js library designed to simplify data communication in wide-area networked music performance. Instead of streaming audio—which requires high bandwidth and complex network configuration—the system transmits musical data and code between performers, allowing sound to be generated locally in environments such as Super-Collider, Max/MSP, or Csound. Using a client/server architecture over WebSockets, it bypasses router port-setup issues and supports flexible communication patterns (one-to-one, one-to-many, many-to-many). This approach offers a unified, low-latency, platform-agnostic solution for remote collaborative music-making.

  For more information please see Section 5 in Wilson, Scott, Vasilakos, Konstantinos, & Sevilgen, Serkan. (2022). **Live Coding in the Time of COVID**. Proceedings of the International Conference on Live Coding. https://doi.org/10.5281/ZENODO.5885651 (Full-text)

  Homepage: https://github.com/serkansevilgen/remote-osc

- **Gendy Cloud** Gendy Cloud is a networked, collaborative music performance platform. Gendy Cloud leverages web interfaces and web audio for real-time performance. Inspired by the GEN-DYN algorithm of Iannis Xenakis, the project enables participants to control stochastic sound synthesis remotely without requiring any installation or configuration—just an internet connection and a compatible device.

  It has been performed at various international events including the Xenakis Networked Music Marathon (Athens, 2022), Sonified Symposium (Istanbul, 2022), the Csound Conference (Vienna, 2024), the Internet of Sounds Symposium (Erlangen, 2024), Convergence Seminar (Antwerp, 2025).

  It was showcased at official Csound website. It was featured on a chapter of the book Meta-Xenakis: New Perspectives on Iannis Xenakis's Life, Work, and Legacies

  Homapage: https://gendycloud.serkansevilgen.com/

- **Image Sonification** This project develops a novel method for data sonification by transforming digital images into multiscale musical structures. Inspired by Iannis Xenakis's Achorripsis and its matrix-based formal design, the approach treats images as pre-structured data matrices whose segments can define macro- and micro-level musical form. Using machine-learning–based image segmentation, the system extracts high-level formal shapes and finer details, which are then mapped to sound via a custom Python–Csound software environment. The result is a flexible, repeatable framework for image-driven algorithmic composition that supports diverse artistic workflows.

  For further details, please consult and, if appropriate, cite the following paper: Sevilgen, Serkan (2022). **Xenakis Matrix to Image Matrix: A Data Sonification Method Inspired by Xenakis's Achorripsis**. Proceedings of the XENAKIS 22: Centenary International Symposium. (Full-text)

  Example code: https://github.com/serkansevilgen/image-sonification

Music Performances

Event	Location	Year
Amfibio Sound Days (Cevdet Erek comm. by Venice Biennale)	Istanbul/Turkey	2025
Noise New Media Art Festival	Istanbul/Turkey	2025
PODIUM for MIAM	Hannover/Germany	2025
SONIFIED Symposium - (installation)	Istanbul/Turkey	2025
SONIFIED Symposium - (*Gendy Ensemble* performance)	Istanbul/Turkey	2025
Convergence Seminar	Antwerp/Belgium	2025
Bilgi University New Music Festival 15	Istanbul/Turkey	2024
MIAM 25th Anniversary Events	Istanbul/Turkey	2024
IEEE Int. Symposium on the Internet of Sounds	Erlangen/Germany	2024
ICSC International Csound Conference	Vienna/Austria	2024
Works for Loudspeakers #28	Wellington/New Zealand	2024
Compophonic Sessions Vol. 1 Concert	Istanbul/Turkey	2024
Tallinn Music Week/Zenith	Tallinn/Estonia	2024
Noise of Istanbul New Media Festival	Istanbul/Turkey	2024
Bilgi University New Music Festival	Istanbul/Turkey	2023
Cranelab Acousmateque Multicanal Listening Room	Millery/France	2023
ATMOSPHERES Multisensorial research in Istanbul	Istanbul/Turkey	2023
ACMC Australasian Computer Music Conference	Sydney/Australia	2023
EM-visia 2023 Concert	Kyiv/Ukraine	2023
International Music Day Spatial Sound Installation	Talinn/Estonia	2023
PAYSAGES COMPOSÉS Festival	Grenoble/France	2023
UdK Exhitibition The Institute for Art in Context	Berlin/Germany	2023
NYCEMF NYC Electroacoustic Music Festival	New York/USA	2023
SONIFIED Symposium	Istanbul/Turkey	2022
XNPM22 Xenakis Networked Performance Marathon	Athens/Greece	2022
digitIZMir Digital Music Festival	Izmir/Turkey	2022
ICMC The International Computer Music Conference	Limerick/Ireland	2022
NIME New Interfaces for Musical Expression	Auckland/New Zealand	2022
SMC The Sound and Music Computing Conference	Saint-Etienne/France	2022
Earth Day Art Model Telematic Festival	Indianapolis/USA	2022
TIEMF Tehran International Electronic Music Festival	Tehran/Iran	2022
HKCR Hong Kong Community Radio	Hong Kong/China	2022
Journal of Space and Culture Conference	Ingolstadt/Germany	2022
ICLC International Conference on Live Coding	Valdivia/Chile	2021
ISMIR Conference	Online	2021
Ecos Urbanos Festival of Sound Art and Transmedia	San Francisco/USA	2021
SBCM 18th Brazilian Symposium on Computer Music	Online/Brazil	2021
SIIDS Sound, Image and Interaction Design Symposium	Funchal/Portugal	2020
Network Music Festival	Birmingham/UK	2020

Talks / Presentations

Type	Event	Location	Year
Workshop	Noise New Media Art Festival	Istanbul/Turkey	2025
Presentation	SONIFIED Symposium	Istanbul/Turkey	2025
Presentation	SONIFIED Symposium (with Sair Sinan Kestelli)	Istanbul/Turkey	2025
Panel	Journey of Sound Young Composers Festival	Istanbul/Turkey	2025
Presentation	Convergence Seminar	Antwerp/Belgium	2025
Presentation	ITU MIAM Colloquium	Istanbul/Turkey	2024
Workshop	Noise of Istanbul Festival	Istanbul/Turkey	2024
Demo	IS^2 Int. Symp. on the Internet of Sounds	Pisa/Italy	2023
Presentation	SONIFIED Symposium	Istanbul/Turkey	2022
Talk	NIME New Interfaces for Musical Expression	Auckland/New Zealand	2022
Presentation	Xenakis 22: Centenary International Symposium	Athens/Greece	2022
Presentation	ICLC International Conference on Live Coding	Valdivia/Chile	2021
Presentation	Hybrid Live Coding Interfaces	Online	2021
Talk	Bilgi University Music Seminars	Istanbul/Turkey	2021
Talk	Mimar Sinan University	Istanbul/Turkey	2020

Publications

- Stein, R.S.., Toda, S., Özbakir, A. D., Sevilgen, V., Gonzalez-Huizar, H., Lotto, G., Sevilgen, S. (2023) **Interactions, stress changes, mysteries, and partial forecasts of the 2023 Kahramanmaraş, Türkiye, earthquakes**, Temblor, http://doi.org/10.32858/temblor.299

- Toda, S., Stein, R. S., Özbakir, A. D., Gonzalez-Huizar, H., Sevilgen, V., Lotto, G., and Sevilgen, S., (2023) **Stress change calculations provide clues to aftershocks in 2023 Türkiye earthquakes**, Temblor, http://doi.org/10.32858/temblor.295

- Sevilgen, Serkan (2022). **Xenakis Matrix to Image Matrix: A Data Sonification Method Inspired by Xenakis's Achorripsis**. Proceedings of the XENAKIS 22: Centenary International Symposium. Full-text

- Wilson, Scott, Vasilakos, Konstantinos, & Sevilgen, Serkan. (2022). **Live Coding in the Time of COVID**. Proceedings of the International Conference on Live Coding. https://doi.org/10.5281/ZENODO.5885651 Full-text

Peer-reviews

Type	Event	Location	Year
Paper & Music	NIME - New Interfaces for Musical Expression	Canberra/Australia	2025
Paper & Music	NIME - New Interfaces for Musical Expression	Utrecht/Netherlands	2024
Paper	ICMC - The International Computer Music Conference	Shenzhen/China	2023

Professional Development

Event	Year
Introduction to Computer Music Course (Roger Dannenberg)	2022
Acoustic, Electroacoustic and Soundscape Course (Barry Truax)	2021
Darmstadt Composition Summer Course (Brian Ferneyough, Mark Andre, ... Raphaël Cendo, Sarah Nemtsov)	2021
Exploring Resonance and Feedback Workshop Series (John Driscoll, Phil Edelstein)	2021
The 5th International Csound Conference	2019
Vector Synthesis with Pure Data Workshop (Derek Holzer)	2019

Certifications

Title	Institution	Year
IBM Blockchain Foundation for Developers	IBM	2018
Introduction to Data Science	University of Washington	2014
15.071x: The Analytics Edge	MIT	2014
Computing for Data Analysis	The Johns Hopkins Universit	2014
MongoDB for DBAs	MongoDB, Inc	2014
6.00x: Introduction to Computer Science and Programming	MIT	2013
Crafting Quality Code	University of Toronto	2013
MongoDB for Developers	MongoDB, Inc	2013

Press Coverage

- Short documentary on Serkan Sevilgen's musical works was aired at TRT2 (Turkish State Television's Culture/Art Channel) (In Turkish) https://www.youtube.com/watch?v=8-8Jh861AUck

- The performance of Serkan Sevilgen and Fulya Ucanok at Network Music Festival (Birmingham, 2020) was reviewed on Manifold website (In Turkish) https://manifold.press/the-curtain-and-beyond