

Jon Fagerström

Audio and Acoustics Researcher

✉ fagerstrom.jon@gmail.com

🌐 Ion3erik

🌐 JonFagerstrom



Employment History

- 2021 – 2025 **Doctoral Researcher.** Aalto Acoustics Lab, Aalto University, Espoo, Finland.
- 2019 – 2020 **Research Assistant.** Aalto Acoustics Lab, Aalto University, Espoo, Finland.
- 2016 – 2018 **Junior hardware engineer.** Hefio Oy, Espoo, Finland.

Education

- 2021 – 2025 **D.Sc., Aalto University,** Aalto Acoustics Lab.
Thesis title: *Velvet Noise in Audio Processing.*
- 2018 – 2020 **M.Sc., Aalto University** in Acoustics and Audio Technology.
Thesis title: *Improving Artificial Room Reverberation using Velvet Noise.*
- 2014 – 2018 **BEng. Electrical Engineering, Metropolia University of Applied Sciences**
in Electronics.
Thesis title: *Headphone Acoustic Measurement and Quality Control.*

Research Publications




Journal Articles

- 1 J. Fagerström, S. J. Schlecht, and V. Välimäki, “Non-exponential reverberation modeling using dark velvet noise,” *J. Audio Eng. Soc.*, vol. 72, no. 6, pp. 370–382, Jun. 2024.
- 2 S. J. Schlecht, J. Fagerström, and V. Välimäki, “Decorrelation in feedback delay networks,” *IEEE/ACM Trans. Audio, Speech and Lang. Process.*, vol. 31, pp. 3478–3487, Sep. 2023.

Conference Proceedings






- 1 J. Fagerström, N. Meyer-Kahlen, S. J. Schlecht, and V. Välimäki, “Binaural dark-velvet-noise reverberator,” in *Proc. Int. Conf. Digital Audio Effects (DAFx)*, Guildford, UK, Sep. 2024, pp. 246–253.
- 2 J. Roberts, J. Fagerström, S. J. Schlecht, and V. Välimäki, “How smooth do you think i am: An analysis on the frequency-dependent temporal roughness of velvet noise,” in *Proc. Int. Conf. Digital Audio Effects (DAFx)*, Copenhagen, Denmark, Sep. 2023, pp. 312–318.
- 3 J. Fagerström, N. Meyer-Kahlen, S. J. Schlecht, and V. Välimäki, “Dark velvet noise,” in *Proc. Int. Conf. Digital Audio Effects (DAFx)*, Vienna, Austria, Sep. 2022, pp. 192–199.
- 4 J. Fagerström, S. J. Schlecht, and V. Välimäki, “One-to-many conversion for percussive samples,” in *Proc. Int. Conf. Digital Audio Effects (DAFx)*, Vienna, Austria, Sep. 2021, pp. 129–135.
- 5 J. Fagerström, B. Alary, S. J. Schlecht, and V. Välimäki, “Velvet-noise feedback delay network,” in *Proc. Int. Conf. Digital Audio Effects (DAFx)*, Vienna, Austria, Sep. 2020, pp. 219–226.

Skills





- Languages  Strong reading, writing and speaking competencies for Finnish and English.
- Coding  Matlab, Python, C++, \LaTeX .
- Misc.  Academic research and writing, teaching, course design, audio programming, digital signal processing, and acoustics.

Teaching Experience

University Courses

- 2024  **Organizer & Teaching Assistant**, Audio Programming Project, Aalto University.
- 2023  **Organizer & Teaching Assistant**, Modern Real-Time Audio Programming (summer course), Aalto University.
- 2024  **Teaching Assistant**, Äänen ja Puheen käsittely (Sound and Speech Processing), Bachelor level course, Aalto University.
- 2021–2023  **Responsible Teacher**, Äänen ja Puheen käsittely (Sound and Speech Processing), Bachelor level course, Aalto University.
- 2022–2024  **Project Advisory**, Audio Signal Processing, Master/Doctoral level course, Aalto University.

Thesis Advisory

- 2021  **Bachelor's Thesis Advisor**. Ville Huhtala, *Digitaaliset viivelinjapohjaiset jälkikaikualgoritmit*.
- 2022  **Bachelor's Thesis Advisor**. Meri Hiipakka, *Geometrinen huoneakustiikan mallinnus*.
-  **Bachelor's Thesis Advisor**. Heikki Penttinen, *Intelligent Equalization in Audio Mixing*.
-  **Master's Thesis Advisor**. Jade Roberts, *How Smooth Can You Go, Can You Go Down Low?: an analysis on the frequency-dependent roughness of velvet-noise*.

References

Prof. Vesa Välimäki (vesa.valimaki@aalto.fi)