Daniel Haider MSc   Curriculum Vitae

resident	Untere Hauptstraße 100, 7100 Neusiedl am See, Austria
born	Aug 20, 1992 in Vienna
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Education

since 2020	University of Vienna __ *PhD Mathematics*
2019	University of Vienna __ *Master Mathematics*
2018	Universidade de Coimbra __ *ERASMUS exchange*
2016	University of Vienna __ *Bachelor Mathematics*

Work experience

since 2020	Acoustics Research Institute, Vienna __ *PhD student* (P. Balazs)
2023	LS2N, Nantes __ *research stay* (V. Lostanlen)
2021/22	University of Vienna __ *project co-worker* (M. Ehler)
2018/19	Acoustics Research Institute, Vienna __ *Master student* (P. Balazs)
2017	Acoustics Research Institute, Vienna __ *intern*
2017	Rotary project, Ghana __ *school project Kwamekrom*

Projects

2023/24	StruMoDeep: DOC fellowship, Austrian Academy of Sciences (A 26355)

Talks and Posters

2023	- 40th International Conference on Machine Learning (ICML), Honolulu (Jul 23-29) __ *poster*
	- Mathematical Signal and Image Analysis, Burghausen (Mar 20-22) __ *talk*
	- Signal Image and Sound (Seminar), Nantes (Mar 16) __ *talk*
	- Frame Theory (Seminar), Vienna (Nov 24) __ *talk*
2022	- Bi-annual Symposium on Harmonic Analysis, Strobl (Jun 20-24) __ *poster*
	- Harmonic Analysis (Seminar), Nantes (May 9) __ *talk*
	- Kymatio Workshop, Nantes (May 19-20) __ *talk*
	- 48th Annual Symposium on Acoustics (DAGA), Stuttgart (Mar 21-24) __ *invited tutorial talk*
2021	- 2nd OEAW AI Summer school, Vienna (Sept 13-17) __ *speaker, tutor*
	- 29th European Signal Processing Conference (EUSIPCO-virtual), Dublin (Aug 23-27) __ *talk*
	- 47th Annual Symposium on Acoustics (DAGA), Vienna (Aug 15-18) __ *invited tutorial talk*
2019	- 14th International Symposium on Computer Music Multidisciplinary Research (CMMR), Marseille (Oct 14-18) __ *poster*

Other participations and organizations

2023   3ⁿᵈ OEAW AI Winter school, Vienna (Jan 16-20) __ *participant*

2022   25ᵗʰ International Conference on Digital Audio Effects, Vienna (Sept 6-10) __ *co-organizer, participant*

2022   Workshop Science Communication (Kinderuni), Vienna (Feb 16) __ *participant*

2021   2ⁿᵈ OEAW AI Summer school, Vienna (Sept 13-17) __ *co-organizer*

2019   20ᵗʰ Annual Conference of the International Speech Communication Association (INTERSPEECH),
        Graz (Sept 15-19) __ *student helper, participant*

2019   1ˢᵗ OEAW AI Summer school, Styria (Aug 5-9) __ *participant*

Publications

2023

- Daniel Haider, Vincent Lostanlen Peter Balazs and Martin Ehler. *Energy preservation of random filter banks* __ submitted to IEEE SPL.
- Vincent Lostanlen, Daniel Haider, Han Han, Mathieu Lagrange, Martin Ehler and Peter Balazs. *Fitting auditory filterbanks with multiresolution neural networks* __ submitted to WASPAA23.
- Daniel Haider, Martin Ehler and Peter Balazs. *Convex geometry of ReLU-layers, injectivity on the ball and local reconstruction.* Proceedings of the International Conference of Machine Learning (ICML), Honolulu, Hawaii, 2023.
- Daniel Haider, Martin Ehler and Peter Balazs. *Alpha-rectifying frames: A frame-theoretic discussion of ReLU activation* __ in final preparation for submission to Journal of Mathematics for Data Science (SIAM).

2022

- Hans G. Feichtinger, Peter Balazs and Daniel Haider. *Double preconditioning for Gabor frame operators: Algebraic, functional analytic and numerical aspects.* Applied and Computational Harmonic Analysis, pp. 1-50.

2021

- Daniel Haider, Peter Balazs and Nicki Holighaus. *Phase-based signal representation for scattering,* Proceedings of the 29th European signal processing conference (EUSIPCO), Dublin, Ireland, 2021, pp. 6-10.
- Daniel Haider, Peter Balazs, Nicki Holighaus and Lorenz Gutscher. *Zeit-Frequenz Darstellungen und Deep Learning.* Proceedings of the 47ᵗʰ annual symposium on acoustics (DAGA), Vienna, Austria, 2021, pp. 29-32.

2019

- Daniel Haider and Peter Balazs. *Extraction of rhythmical features with Gabor scattering.* Proceedings of the 14th international symposium on computer music multidisciplinary research (CMMR), Marseille, France, 2019, pp. 916-923.

2017

- Daniel Haider and Peter Balazs. *Factorization of the Gabor cross-Gram matrix* __ preprint (collection of results to be included in a larger project)