



# Simon Zimmermann

*Curriculum Vitae*

## PERSONAL DETAILS

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<i>Birth</i>	June 5, 1993
<i>Location</i>	Düsseldorf, Germany
<i>Mail</i>	<a href="mailto:mail@simonzimmermann.com">mail@simonzimmermann.com</a>
<i>Github</i>	<a href="https://github.com/SimonZimmer">github.com/SimonZimmer</a>

## EDUCATION

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<b>M.Sc. Media Informatics</b> <i>University of Applied Sciences Düsseldorf</i> Thesis title: 'Scalable Modelling of Room Acoustic Characteristics for AR-devices on the Basis of Visual Information Using Deep Learning' - honors degree.	2018-2020
<b>M.Sc. Music Informatics</b> <i>University of Music Karlsruhe</i> Guest Semester	2018
<b>B.Eng. Media Engineering</b> <i>University of Applied Sciences Düsseldorf</i> Thesis title: 'A Concept for Implementing Room Acoustic Material Properties in the Context of a 3D-Audio Engine'	2012-2017

## WORK EXPERIENCE

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### C++ Backend Software Developer

2022-present

*Dear Reality GmbH, Full-time*

Backend research and development of digital signal processing algorithms and API design using C, C++, and Python

### C++ Fullstack Software Developer

2020-present

*Dear Reality GmbH, Full-time*

Full-stack development of real-time desktop audio applications following test-driven development, modern C++, and agile project management principles

### Researcher / QA Engineer (Working Student)

2017-2020

*Dear Reality GmbH, Part-time*

Research and development of digital signal processing prototypes, quality assurance, and test automation development

### Room-Acoustics Engineer (Working Student)

2016-2017

*ISRW-Klapdor, Part-time*

Simulation and design of room-acoustic properties and in-situ acoustic measurements

## PROJECTS

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### dearVR Exoverb

2022

*Backend Developer*

Developed the DAW-plugin "Exoverb," which uses synthesized reverb impulse responses and additional processing to generate realistic reverberation effects

### Team Split Facilitation

2022

*Backend Developer, DevOps Engineer*

Facilitated the transition from a single-team solution to a frontend/backend split. Extended the technology stack with Conan, Microsoft Azure, Pure Data, and C

### dearVR MIX/MONITOR

2021

*Full Stack Developer*

Developed the DAW-plugins "dearVR MIX" and "dearVR MONITOR," which utilize headphone calibration, room simulation, and binauralization to virtualize professional studio environments. These plugins also simulate multichannel audio playback

## PUBLICATION

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### Co-Author

2021

*Conference Paper, Immersive and 3D Audio: from Architecture to Automotive (I3DA): "Machine Learning-Based Room Classification for Selecting Binaural Room Impulse Responses in Augmented Reality Applications"*

## AWARDS

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### Composer, Producer

2020

*Best contribution "!"content" in the category Acoustic Stories, "Sound Cinema Düsseldorf"*

### Composer, Producer

2020

*Audience award for contribution "!"content", "Sound Cinema Düsseldorf"*

## SKILLS

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*Languages*      German (mother tongue)  
English (fluent)

*Technologies*    C++17  
CMake  
conan  
boost  
googletest/googlemock  
google-benchmark  
C99  
Python  
Pure Data (Pd)  
Linux  
git  
nvim/vim  
docker  
conan  
Azure DevOps  
Github Actions  
Jenkins  
POSIX  
MATLAB  
L<sup>A</sup>T<sub>E</sub>X  
JUICE  
pybind11  
flask  
wagtail

*Other*            Music Production  
Modular Synthesizer  
Esoteric Programming Languages (Orca, TidalCycles)