

THOMAS HOLZ

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WORK EXPERIENCE

ML Research Engineer - Speech Technologies

Fraunhofer, Institute for Intelligent Analysis and Information Systems

since Jan. 2023

Sankt Augustin, Germany

- Research state-of-the-art post-error-correction approaches (incl. Transformers and Large Language Models) for an EU-wide research project called SELMA

Audio DSP / ML Engineer Intern

Brainworx Audio GmbH

Apr. 2022 – Sept. 2022

Langenfeld/Düsseldorf, Germany

- Worked on the hardware modelling of the Dallas Rangemaster
- As part of the DSP research team, I implemented a deep learning based instrument classifier
- Was in charge of model deployment from Tensorflow / Pytorch to C++

Machine Learning Engineer Intern

Apple

Feb. 2021 – Dec. 2021

Hamburg/Düsseldorf, Germany

- As part of the Music Apps team, I worked on my Master's thesis: Automatic Drum Transcription with Deep Neural Networks
- Created my own dataset using Python for regularization purposes

Research Assistant / Software Developer

Fraunhofer, Wireless Communications and Networks

Jan. 2020 – Dec. 2020

Berlin, Germany

- Developed a real-time spectrum analyzer for a drone communication system
- Worked on an encryption method to ensure the security of the communication between the drone and the server
- Worked on a PCM so that signals can be transmitted via VoIP
- Worked on a communication module using the mangOH Green development board

Acoustics Consultant

ISRW Klapdor GmbH

Jul. 2018 – Dec. 2019

Düsseldorf/Berlin, Germany

- Planned the room acoustics of offices, schools, hotels, and concert halls
- Conducted measurements in various settings - reverberation time, sound reduction index of walls/floors/windows, vibrations caused by trains

Sound Engineer

West German Broadcasting (WDR)

Jun. 2017 – Dec. 2017

Düsseldorf, Germany

- Recorded interviews and selected the necessary equipment for live situations in various acoustical settings in order to ensure a high-quality signal

EDUCATION

M.Sc. Audio Communication and Technology

Technical University of Berlin

2019 – Sept. 2022

Berlin, Germany

- Thesis: Automatic Drum Transcription with Deep Neural Networks (Distinguished Thesis Award)

B.Sc. Audio Engineering

Lawrence Technological University

Jan – May 2018 (Semester Abroad)

Southfield, MI, USA

- GPA 4.0, Dean's Honor Roll

B.Eng. Audio and Video

University of Applied Sciences

2014 – 2019

Düsseldorf, Germany

- Thesis: *The Influence of Room Acoustical Measures on Subjectively Perceived Parameters*

B.A. English and American Studies & Musicology

Heinrich Heine University Düsseldorf

2012 – 2017

Düsseldorf, Germany

- Thesis: *The Pin-Pen Merger in Oklahoma English: A Perception Study*

PROJECTS

github.com/thomaschhh

Sonification (Python, Faust)

Sonification of the RKI COVID-19 dataset where each variable in the dataset changes a parameter of the sound synthesis.

iPad App (C, Swift, Pure Data)

Synthesizer app that can be used as either a standalone iPad app or using the TouchOSC app.

Study (Python, R)

Impact of COVID-19 on people's listening behavior across the world based on an audio feature analysis using the Spotify API.

VOLUNTEERING

EDUCAT Germany e.V.

Since Jun. 2019 – Digital Activation

CERTIFICATES

- Studio Acoustics and Monitor Loudspeakers
- Adaption of Room Acoustics to the Requirements of Different Events

SCHOLARSHIPS

Germany Scholarship Program

Dec. 2017 – Dec. 2018

PROMOS Scholarship

Jan. – May. 2018

International Student Scholarship

Jan. – May. 2018

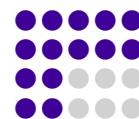
LANGUAGES

German

English

French

Spanish



SKILLS

Operating systems



Python

Pytorch/Tensorflow

C++

Git

ONNX

AWS

CATT-Acoustic

JUCE

Matlab

Pure Data

R

Swift

HEAD ArtemiS SUITE

