Benjamin **Stahl**

PERSONAL

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EDUCATION

DOCTORAL SCHOOL FOR SCHOLARLY DOCTORAL STUDIES,
UNIVERSITY OF MUSIC AND PERFORMING ARTS GRAZ
DOCTORAL PROGRAM SOUND AND MUSIC COMPUTING
2018 - today,
supervising institute: Institute of Electronic Music and Acoustics

EASTERN EUROPEAN MACHINE LEARNING SUMMER SCHOOL (VIRTUAL)
LECTURES AND PRACTICAL SESSIONS ON DEEP LEARNING AND REINFORCEMENT LEARNING
July 2020

UNIVERSITY OF MUSIC AND PERFORMING ARTS / UNIVERSITY OF TECHNOLOGY GRAZ
MASTER'S PROGRAM ELECTRICAL ENGINEERING AND AUDIO ENGINEERING
2015 - 2018,
degree: Master of Science, graduated with honors, March 2018

SMC 2016 SUMMER SCHOOL HAMBURG
LECTURES AND WORKSHOPS ADDRESSING CURRENT TOPICS IN ACOUSTICS AND COMPUTER MUSIC
August 2016

UNIVERSITY OF MUSIC AND PERFORMING ARTS / UNIVERSITY OF TECHNOLOGY GRAZ
BACHELOR'S PROGRAM ELECTRICAL ENGINEERING AND AUDIO ENGINEERING
2011 - 2015,
degree: Bachelor of Science, September 2015

OTTO-HAHN-GYMNASIUM NAGOLD
2002 - 2011,
degree: Abitur (1.5), May 2011

RELEVANT WORK EXPERIENCE

INSTITUTE OF ELECTRONIC MUSIC AND ACOUSTICS | UNIVERSITY ASSISTANT

October 2019 - today| Graz

- research on microphone array processing
- research on audio quality perception
- supervising scientific-technical and artistic-technical student projects

INSTITUTE OF ELECTRONIC MUSIC AND ACOUSTICS | PROJECT ASSISTANT

June 2018 - September 2019 | Graz

- created a corpus of speech/noise microphone array recordings
- developed and implemented speech enhancement algorithms for intercoms

MAGNA STEYR FAHRZEUGTECHNIK | MASTER'S THESIS

July 2017 - February 2018 | Graz

- developed and implemented a physical model for engine noise synthesis
- implemented an algorithm for real-time engine noise synthesis on microcontrollers

FRAUNHOFER IIS | INTERNSHIP

July 2014 - September 2014 | Erlangen

- developed a system for real-time heart rate sonification
- conducted a pilot study and wrote a conference paper for ICAD 2015

SKILLS

PROGRAMMING, SIGNAL PROCESSING

- **programming languages:**
  C • C++ • Python • MATLAB • Pure Data
- **very good general signal processing skills:**
  - block signal processing, DFT, convolution
  - adaptive filtering in both time and frequency domain (e.g., in echo cancellation)
- **experience with real-time audio signal processing:**
  - implemented several real-time audio prototypes in MATLAB, Pure Data, C/C++
- **very good skills in acoustic measurements:**
  - sweep measurements of LTI systems
  - directivity patterns
- **very good skills in microphone array processing:**
  - classical beamfoming and postfilter approaches (MVDR, DS, GSC, coherence-based postfilter)
  - mask-based beamforming with mask estimation using neural networks

EXPERIMENT DESIGN AND STATISTICS

- data exploration in MATLAB / Python / R
- good statistics knowledge
- conducted several pilot studies (listening experiments, usability studies)

LANGUAGES

- German (native speaker)
- English (fluent)
- French (basic)