EMIL PASQUALINI

he/him, BSc BSc, Student @ TU Graz & Kunstuni Graz

Born on 13.08.2000 in Deutschlandsberg as Emil Berger
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Technology | Research | Music | Art

EDUCATION

Dipl.-Ing. (MSc) Electrical Engineering and Audio Engineering
Graz University of Music and Performing Arts

 October 2025 – present   Graz, Austria

Joint degree program with Graz University of Technology.
Focus in Signal Processing for Speech and Music.

Dipl.-Ing. (MSc) Information and Computer Engineering
Graz University of Technology

 October 2025 – present   Graz, Austria

Major subject: Signal Processing and Human Communications.
Minor subject: Artificial Intelligence.

BSc Electrical Engineering and Audio Engineering
Graz University of Music and Performing Arts

 October 2020 – June 2025   Graz, Austria

Joint degree program with Graz University of Technology.
Bachelor's project: "Single Channel Source Separation for Conversational Speech in Realistic Environments".

BSc Information and Computer Engineering
Graz University of Technology

 October 2019 – June 2025   Graz, Austria

Bachelor's thesis: "CNN-based Homophone Disambiguation for Conversational Speech".

Matura | Branch: Mechatronics
HTBLA Kaindorf

 September 2014 – June 2019   Kaindorf an der Sulm, Austria

passed with distinction.
Final project: "User Interface and Micro-controller Software for a Motorcycle Test Bench".

EXPERIENCE

Live Event Technician (Sound & Lighting)
Hin & Wider - Non-profit Association for Cabaret Arts

 September 2025 – present   Graz, Austria

- Directed all technical aspects for live performances, including sound reinforcement and stage lighting for music, cabaret, and theatre events.

PROFESSIONAL INTERESTS

Signal Processing | Machine Learning
Speech & Audio Signal Processing
Automatic Speech Recognition
Source Separation | Communications
Transformers | LLMs | Recording

SOFT SKILLS

Problem Solving | Team Player
Endurance | Ambition | Creativity
Communication | Hard working
Organisation | Adaptability

PROGRAMMING LANGUAGES & TOOLS

Scientific Python	●●●●◐
LaTex	●●●●○
MATLAB	●●●◐○
Bash	●●●○○
C/C++	●●●○○
Java	●●●○○
SystemVerilog	●●◐○○
Julia	●●○○○
Swift	●○○○○

NumPy	●●●●●
PyTorch	●●●●◐
Git	●●●●○
Asteroid	●●●●○
Scikit-learn	●●●●○
Tensorflow/Keras	●●●◐○
Praat-Parselmouth	●●●○○
TextGridTools	●●●○○
OpenCV	●●●◐○
SpeechBrain	●●●○○
HuggingFace	●●●○○

SOFTWARE

JetBrains Suite	●●●●○

- Oversaw all on-stage operations, including artist liaison, microphone and lighting setup, soundchecks, and live mixing of audio and lighting cues.

Student Project & Teaching Assistant
Signal Processing and Speech Communication Laboratory
Graz University of Technology

📅 March 2024 – July 2026   📍 Graz, Austria

- Creating a novel speech corpus (GRASS StudyFair).
- Speech and Speaker's behaviour analysis.
- Preparing a lab course: Speaking and Listening Machines, Lab.
- Writing scientific papers.
- Organisation and arrangment of the Marie-Curie doctoral programs of Unite! - Speech, Language and AI.
- Implementing approaches for unsupervised SCSS using PyTorch.

Student Project Assistant
Signal Processing and Speech Communication Laboratory
Graz University of Technology

📅 February 2023 – January 2024   📍 Graz, Austria

- Implementing and evaluating SCSS models using PyTorch.
- Creating a novel speech corpus (GRASS StudyFair).
- ASR-powered orthographic annotations.
- Writing scientific papers.

Barista & Service
Café Lex

📅 January 2017 – September 2022   📍 Stainz, Austria

Internship: PCB Design
Magna Powertrain GmbH

📅 One month – Summer 2017   📍 Lannach, Austria

Internship: Metal Worker & CNC
Johann Eberhard GmbH "Fisch-Tools"

📅 One month – Summer 2016   📍 St. Josef i. d. Weststeiermark, Austria

TEACHING EXPERIENCE

WT: Winter Term (Oct-Jan), ST: Summer Term (Mar-Jun).

Student Teaching Assistant
Signal Processing and Speech Communication Laboratory
Graz University of Technology

- Adaptive Systems, Practicals: WT'24, WT'25.
- Digital Signal Processing and Communication, Lab: WT'24, WT'25.
- Fundamentals of Discrete-Time Signals and Systems, Practicals: ST'24.
- Fundamentals of Discrete-Time Signals and Systems, Lecture: ST'25, ST'26.
- Speaking and Listening Machines, Lab: ST'25, ST'26.

VSCode ●●●◖○
Praat ●●●○○
Docker ●○○○○

Logic Pro ●●●●◖
MainStage ●●●●○
MuseScore 4 ●●●○○
Sibelius 8 ●●●○○
QLab ●●●○○
Audacity ●●○○○
Reaper ●●○○○
Nuendo ●◖○○○
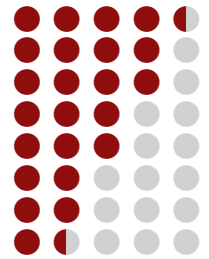
LANGUAGES

German (native) ●●●●●

English ●●●●○

Italian ●●○○○

HOBBIES & INTERESTS

Piano Playing   Music Production
Classical & Contemporary Music
Heavy Metal   Guttural Vocals
Composing   Travelling   Nature
Photography   Astronomy
History   Geography   Fashion
Skiing   Hiking   Debating

REFEREES

Prof. Barbara Schuppler
@ b.schuppler@tugraz.at
✉ Inffeldgasse 16c, 8010 Graz
SPSC @ TU Graz

Prof. Franz Pernkopf
@ pernkopf@tugraz.at
✉ Inffeldgasse 16c, 8010 Graz
SPSC @ TU Graz

CONFERENCES & WORKSHOPS

3rd Graz-Vienna Speech Workshop – Connecting with Health Sciences

📅 April 23-25, 2025 📍 Vienna, Austria

jointly organised by Medical University of Vienna, Graz University of Technology and the Austrian Academy of Sciences. Presented *"Speech Enhancement in Cocktail Party Noise"* at the plenum.

Joint Summer School on Generative AI

📅 August 12-16, 2024 📍 Norrköping, Sweden

arranged in collaboration with the WASP Research Arenas Media and Language (WARA M&L), Robotics (WARA Robotics), WASP-HS and Unite! (KTH & TU Graz).

15th ITG Conference on Speech Communications

📅 September 20-22, 2023 📍 Aachen, Germany

organised by Institute of Communication Systems, RWTH Aachen.
Presented *"Single Channel Source Separation in the Wild – Conversational Speech in Realistic Environments"* at poster session.

2nd Graz-Vienna Speech Workshop

📅 May 3-4, 2023 📍 Graz, Austria

jointly organised by Graz University of Technology and University of Graz.

PUBLICATIONS

You can download my publications at https://emilpasqualini.eu/research.

🏛 Theses

- E. Berger, "Single-Channel Source Separation for Conversational Speech in Realistic Environments," Bachelor's Project, Graz University of Technology, 2023.
- E. Berger, "CNN-based Homophone Disambiguation for Conversational Speech," Bachelor's Thesis, Graz University of Technology, 2022.
- E. Berger, J. Ehmann, and D. Sammer, "Motorradprüfstand," Diplomarbeit (Final pre-scientific work at HTL), HTBLA Kaindorf, 2019.

👥 Conference Proceedings

- E. Berger, B. Schuppler, F. Pernkopf, and M. Hagmueller, "Single channel source separation in the wild – conversational speech in realistic environments," in *Speech Communication; 15th ITG Conference*, 2023, pp. 96–100. DOI: 10.30420/456164018.
- B. Schuppler, E. Berger, X. Kogler, and F. Pernkopf, "Homophone disambiguation profits from durational information," English, in *Proceedings of the Annual Conference of the International Speech Communication Association, INTERSPEECH*, 2022, pp. 3198–3202. DOI: 10.21437/Interspeech.2022-10109.

⋰ Reports, Preprints and Teaching Material

- E. Berger, B. Schuppler, M. Hagmüller, and F. Pernkopf, *Speech Enhancement of Conversational Speech in Cocktail Party Noise*, Book of Abstracts - 3rd Graz-Wien Speech Workshop, pp. 27-28, 2025.
- E. Berger, *Recording, Mixing and Mastering of the Metal EP "Killing Your Dreams Again" by the Band Adiant*, Recording Studio Report, Recording Techniques 2 Lab, Graz University of Technology, (German), 2025.

MUSICAL ENGAGEMENTS & PROJECTS

Keyboardist and Vocalist (Melodic Metal/Gothic Metal)
Adiant

📅 August 2023 – present　　　　　　　　　📍 Deutschlandsberg, Austria

Bassist and Lead Vocalist (Melodic Black/Death Metal)
Sogno'Scuro

📅 October 2024 – present　　　　　　　　　📍 Deutschlandsberg, Austria

Multi-Instrumental Solo Project
Emilio Fårberg

📅 May 2022 – present　　　　　　　　　📍 Graz, Austria

ARTISTIC WORKS

Killing Your Dreams Again
EP, Adiant

📅 October 2025　　　　　　　　　📍 Graz, Austria

Recording and mixing at the recording studio of Graz University of Technology.
Composition of track 6 "Beloved Distance, Pt. 3", work for two pianos.
Contributed music and lyrics to track 2 "Burning Bridges".
Contributed music to tracks 1 and 3-5.
Single released in July 2025: "Beloved Distance, Pt. 2".

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ankommen
Triptych, écriture automatique

📅 July 2025　　　　　　　　　📍 Graz, Austria

1) "koexistenz", 2) "formwerdung" and 3) "schwerelos".
Digtially created in style of coal on paper.

Witches Dance
Concept Album, Adiant

📅 September 2024　　　　　　　　　📍 Deutschlandsberg, Austria

Composition and interpretation of track 10 "L'Inferno", work for solo piano.
Contributed music and lyrics to tracks 6 and 7.
Contributed music to tracks 1-5, 8 and 9.
Single released in June 2024: "The Cleansing".

Liebestraum No. 3 in A-Flat Major, S.541/3
Single, Emilio Fårberg (Franz Liszt)

📅 December 2024　　　　　　　　　📍 Graz, Austria

Piano solo by Franz Liszt.
Interpretation, recording, mixing and mastering.

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vento d'autunno
Single, Emilio Fårberg

📅 October 2024　　　　　　　　　📍 Graz, Austria

Composition, interpretation, recording, mixing and mastering.

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energy flow

Single, Emilio Fårberg (Ryuichi Sakamoto)

📅 September 2024 📍 Graz, Austria

Piano solo by Ryuichi Sakamoto.
Interpretation, recording, mixing and mastering.