Vincent Herrmann

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in Vincent Herrmann | ⦿ vincentherrmann

Lugano, Switzerland

EDUCATION

• **PhD in Artificial Intelligence** — *2020–2025*
The Swiss AI Lab IDSIA, University of Lugano — Lugano, Switzerland
  ◦ Working on Artificial Curiosity, Representation Learning and Reinforcement Learning.
    Supervised by Prof. Dr. Jürgen Schmidhuber

• **Master of Arts in Music Informatics** — *2017–2020*
University of Music Karlsruhe — Karlsruhe, Germany
  ◦ Grade: 1.2

• **Master of Music in Piano Performance** — *2017–2019*
University of Music and Performing Arts Stuttgart — Stuttgart, Germany
  ◦ 1.0 with distinction (best possible grade)

• **Bachelor of Music in Piano Performance and Composition** — *2010–2015*
University of Music and Performing Arts Stuttgart — Stuttgart, Germany
  ◦ 1.0 with distinction (best possible grade)

WORK EXPERIENCE

• **Lecturer** — *2022–Present*
University of Music Karlsruhe — Karlsruhe, Germany
  ◦ Teaching courses on deep learning and generative modeling for music

• **Lecturer** — *2021–2022*
University of Music and Performing Arts Stuttgart — Stuttgart, Germany
  ◦ Teaching piano performance, substituting for Prof. Michael Hauber

• **Master Student** — *2019–2020*
Bosch Center for Artificial Intelligence — Renningen, Germany
  ◦ Research on generative models of symbolic music

• **Research and Teaching Assistant** — *2018–2020*
University of Music Karlsruhe — Karlsruhe, Germany
  ◦ Teaching tutorials on music-related AI programming

• **Research Assistant** — *2016–2017*
University of Music and Performing Arts Karlsruhe — Stuttgart, Germany
  ◦ Analyzing performance data from a computerized grand piano

• **Freelance Work** — *2011–Present*
  ◦ Pianist, composer, arranger, and consultant for interactive live-electronic projects

PROJECTS

• **Generative Transformer-based Models of Symbolic Polyphonic Music** — *2020*
Master Thesis supervised by Prof. Dr. Christoph Seibert — Master Thesis
  ◦ Grade: 1.0

• **Immersions - How Does Music Sound to Artificial Ears?** — *2019*
Project that explores how music is perceived by AI systems
  ◦ Awarded Outstanding Demonstration Award at NeurIPS 2019

Publications (Selection)

- Dylan R. Ashley*, Vincent Herrmann*, Zachary Friggstad, Jürgen Schmidhuber (2024). **On the Distillation of Stories for Transferring Narrative Arcs in Collections of Independent Media**. In *IEEE TPAMI*.

- Vincent Herrmann, Francesco Faccio, Jürgen Schmidhuber (2024). **Learning useful representations of recurrent neural network weight matrices**. In *ICML 2024* [Oral].

- Vincent Herrmann, Louis Kirsch, Jürgen Schmidhuber (2023). **Learning one abstract bit at a time through self-invented experiments encoded as neural networks**. In *IWAI 2023* [Oral].

- Francesco Faccio*, Vincent Herrmann*, Aditya Ramesh, Louis Kirsch, Jürgen Schmidhuber (2023). **Goal-Conditioned Generators of Deep Policies**. In *AAAI 2023* [Oral].

- Vincent Herrmann (2020). **Visualizing and sonifying how an artificial ear hears music**. In *PMLR post proceedings*, NeurIPS 2019.

- Vincent Herrmann (2019). **Immersions - How Does Music Sound to Artificial Ears?**. In *NeurIPS 2019 Machine Learning for Creativity and Design Workshop*.

- Vincent Herrmann (2017). **Wasserstein GAN and the Kantorovich-Rubinstein Duality**. Blog post.

- Vincent Herrmann (2016). **Wavelets - From Filter Banks to the Dilation Equation**. Published on *dsprelated.com*.

- Vincent Herrmann (2016). **Wavelets - Vanishing Moments and Spectral Factorization**. Published on *dsprelated.com*.

* signifies shared first-authorship

Honors and Awards

- **NeurIPS R0-FoMo Workshop Best Paper Award** *2023*
  For "Mindstorms in natural language-based societies of mind"
- **ICML Decision-aware RL Workshop Award** *2022*
  For "Goal-Conditioned Generators of Deep Policies"
- **NeurIPS Outstanding Demonstration Award** *2019*
  For "Immersions - How does Music sound to Artificial Ears?"
- **Finalist at the International Piano Competition Ferruccio Busoni, Bolzano** *2015*

Skills

- **Machine Learning Frameworks:** PyTorch, jax
- **Machine Learning Research:** Experience with training and fine-tuning foundation models, reinforcement learning agents, running large scale experiments, mechanistic interpretability and advanced visualization techniques
- **Programming Languages:** Python, C, Swift, Max/MSP, PureData, JavaScript, Java
- **Music Software:** Logic Pro, Ableton Live, Finale, Dorico
- **Other Tools:** Adobe Photoshop, Illustrator, InDesign

Languages

German: Native
English: Proficient
Italian: Basic
Latin, Ancient Greek: Rusty