

Rodrigo Diaz

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Education

- 2021–2025 **PhD in Artificial Intelligence and Music**, *Queen Mary University of London*.
Supervisors: Professor Mark Sandler & Charalampos Saitis
- 2013–2016 **Master of Arts**, *Bauhaus-Universität Weimar*.
Supervisors: Professor Robin Minard & Thomas Koch
- 2008–2012 **Bachelor of Music**, *Texas Christian University*.
Advisor: Professor Gerald Gabel

Publications

- 2024 **Diaz, Rodrigo**, Carlos De La Vega Martin, and Mark Sandler. Towards efficient modelling of string dynamics: A comparison of state space and koopman based deep learning methods. In *Proc. Int. Conf. Digital Audio Effects (DAFx-24)*, 2024.
- 2023 **Diaz, Rodrigo**, Charalampos Saitis, and Mark B Sandler. Interactive neural resonators. In *Proceedings of the International Conference on New Interfaces for Musical Expression*, pages 569–573, Mexico City, Mexico, May 2023.
- 2023 **Diaz, Rodrigo**, Ben Hayes, Charalampos Saitis, György Fazekas, and Mark Sandler. Rigid-body sound synthesis with differentiable modal resonators. In *ICASSP 2023 - 2023 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 1–5, June 2023.
- 2023 Teresa Pelinski, **Diaz, Rodrigo**, Adan L. Benito Temprano, and Andrew McPherson. Pipeline for recording datasets and running neural networks on the bela embedded hardware platform. In *Proceedings of the International Conference on New Interfaces for Musical Expression*, pages 160–166, Mexico City, Mexico, May 2023.
- 2022 Markus Worchel, **Diaz, Rodrigo**, Weiwen Hu, Oliver Schreer, Ingo Feldmann, and Peter Eisert. Multi-view mesh reconstruction with neural deferred shading. In *2022 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, pages 6177–6187, June 2022.
- 2022 Oliver Schreer, Markus Worchel, **Diaz, Rodrigo**, Sylvain Renault, Wieland Morgenstern, Ingo Feldmann, Marcus Zepp, Anna Hilsmann, and Peter Eisert. Preserving memories of contemporary witnesses using volumetric video. *i-com: Journal of Interactive Media*, volume 21, pages 71–82, 2022.

- 2019 **Diaz, Rodrigo**, Aurela Shehu, Ingo Feldmann, Oliver Schreer, and Peter Eisert. Region dependent mesh refinement for volumetric video workflows. In *2019 International Conference on 3D Immersion (IC3D)*, pages 1–8, December 2019.
- 2016 **Diaz, Rodrigo** and Thomas Koch. Live Panorama and 3D Audio Streaming to Mobile VR. In *Proceedings of the 2016 AES International Conference on Headphone Technology*, Aalborg, Denmark, August 2016.

Experience

- 2015–2021 **Research Associate**, *Fraunhofer Heinrich-Hertz Institute*.
Implemented algorithms for 3D reconstruction and mesh refinement. Developed a virtual reality player for mobile devices capable of real-time stereoscopic panoramic video and audio streaming. Worked on the mobile implementation of a prototype for dynamic HEVC tiled streaming. Implemented diverse image processing algorithms in CUDA.
- 2014–2015 **Lecturer**, *Bauhaus-Universität Weimar*.
Taught a course in artistic design with Pure Data. Covered topics such as the fundamentals of DSP, audio synthesis methods and video manipulation with GEM.
- 2014 **Composer**, *Bauhaus-Universität Weimar*.
Produced music for the "Kometen Tanz" short film premiered at the Full Dome festival in Jena, Germany.
- 2013 **Lecturer**, *Arequipa Regional Music Conservatory*.
Taught an introductory course in Pure Data.

Freelance

- 2015 **Developer**, *Sonic Planet*.
Developed an iOS app for beatmapping, and spatial audio.
- 2015 **Developer**, *INVR*.
Developed an VR interactive application for experimental the film "The Future of VR"
- 2015 **Developer**, *Mach 1*.
Developed a tool for the synchronization of audio, video and a digital audio workstation in VR.
- 2013–2014 **Developer**, *Private Client*.
Developed a Max/MSP based tool for testing psychological experiments measuring physiological responses to sound.

Technical skills

Expert PYTHON, JAX, PYTORCH, C++, CUDA
 Advanced C, C#, PureData, MaxMSP
 Intermediate OBJ-C, L^AT_EX, Supercollider, JAVASCRIPT

Awards

- 2023 Second Prize – [Neural Audio Plug-in Competition](#)
- 2014 First Prize – Akousmatikon Electroacoustic Competition, Buenos Aires

2004 First Prize – National Violin Competition, Lima

Workshops, Tutorials and Activities

2023 ISMIR Tutorial, [Introduction to Differentiable Audio Synthesizer Programming](#)

2023 AIMC Workshop, [Agential Instruments Design Workshop](#)

2018 IBC, stand and demonstration of volumetric reconstruction pipeline, Amsterdam

2016 NAB, stand and demonstration of 360 stereoscopic streaming to mobile VR headsets, Las Vegas

2015 DAAD Strategic Partnership Scholar, visit and demonstration of works. University of California in San Diego

2015 Immersive Lab Workshop at GRAY AREA, San Francisco

2014 Demonstration of artistic uses in Spatial Audio, 136th International AES Conference, Berlin

2014 Electroacoustic Concert and Workshop, Sibelius Academy, Helsinki

2011 Contemporary Music Festival Concert and Workshop, Kiev, Ukraine

Languages

Spanish

English

German