

Acclaimed keyboardist Jordan Rudess collaborates with the MIT Media Lab on jam_bot Culminates in live improvisational duet between AI and artist

Jordan and the jam_bot

Work-in-Progress Performance by Jordan Rudess, keyboard and jam_bot
with special guest Camilla Bäckman, violin/vocals

September 21, 2024 / 8pm / MIT Media Lab, Cambridge, MA

[Tickets](#)

Cambridge, MA, September 17, 2024 – The MIT Center for Art, Science & Technology and the MIT Media Lab announce that acclaimed keyboardist Jordan Rudess, together with researchers from the Media Lab’s Responsive Environments group, will present their new AI-powered music technology jam_bot September 21, 2024. [Watch](#) a reel about the project.

Their new project, jam_bot, probes the boundaries of where AI meets musical control and expression. A machine learning model trained on Rudess’s playing style and technique improvises and performs live in a duet with its human counterpart. Sometimes leading, sometimes following, the model and human together create new and unique music that interacts in real time with a physical installation that responds to and influences the behavior of the model. Their vision is for “symbiotic virtuosity”: for human and computer to duet in real time, learning from each duet they perform together, and making performance-worthy new music in front of a live audience.

“How can the AI respond — how can I have a dialogue with it? That’s the cutting-edge part of what we’re doing, says Rudess.”

Rudess is at MIT as a [Center for Art, Science & Technology](#) visiting artist where he is collaborating with the [MIT Media Lab’s Responsive Environments](#) research group. Rudess’s main partners in the enterprise are Media Lab graduate students Lancelot Blanchard, who explores musical applications of generative AI (informed by his own studies in classical piano), and Perry Naseck, an artist and engineer specializing in interactive, kinetic, light- and time-based media. Overseeing the project is Joseph Paradiso, Alexander W. Dreyfoos (1954) Professor at the Media Lab, and head of the Responsive Environments group, whose team has a tradition of investigating musical frontiers through novel user interfaces, sensor networks and unconventional data sets.

Rudess is a keyboardist known for his work with the platinum-selling, Grammy-winning progressive metal band [Dream Theater](#), which embarks this fall on a 40th anniversary tour. He is also a solo artist whose latest album, “[Permission to Fly](#),” was released on September 6; an educator who shares his skills through detailed online tutorials; and the founder of software company Wizdom Music. His work combines a rigorous classical foundation (he began his piano studies at Juilliard at age 9) with a genius for improvisation and an appetite for experimentation.

Rudess contributed the data on which Blanchard trained the AI model and provided continuous testing and feedback, while Naseck will present ways of visualizing the technology for the audience. As the starting point for his model, Blanchard used Music Transformer, an open-source neural network architecture developed by Media Lab alumna Anna Huang SM '08, now an MIT Assistant Professor of music and technology.

“In the field of generative AI and music, you hear about startups that are able to generate music based on text prompts. Those are very interesting, but they lack controllability,” says Blanchard. “It was important for Jordan to be able to anticipate what was going to happen. If he could see the AI was going to make a decision he didn't want, he could restart the generation or have a kill switch so that he can take control again. Jordan is the mastermind of everything that's happening in the performance.”

Keyboardist/Technologist: Jordan Rudess, CAST Visiting Artist

AI Music System Designer: Lancelot Blanchard, Research Assistant, Responsive Environments Group, MIT Media Lab

Installation Artist/Designer: Perry Naseck, Research Assistant, Responsive Environments Group, MIT Media Lab

Faculty Advisor: Joe Paradiso, Alexander W. Dreyfoos (1954) Professor and Director of the Responsive Environments Group, MIT Media Lab

Special guest: Camilla Bäckman, violin/vocals

About the MIT Center for Art, Science & Technology

A major cross-school initiative, the [MIT Center for Art, Science & Technology \(CAST\)](#) creates new opportunities for art, science and technology to thrive as interrelated, mutually informing modes of exploration, knowledge and discovery. CAST's multidisciplinary platform presents performing and visual arts programs, supports research projects for artists working with science and engineering labs, and sponsors symposia, classes, workshops, design studios, lectures and publications. Evan Ziporyn, Faculty Director; Leila W. Kinney, Executive Director.

About Jordan Rudess

Voted “Best Keyboardist of All Time” by *Music Radar Magazine*, **Jordan Rudess** is best known as the keyboardist/multi-instrumentalist extraordinaire for platinum-selling Grammy Award-winning rock band, Dream Theater. A classical prodigy who began his studies at the Juilliard School at the age of 9, his music is a unique blend of classical and rock influences. In addition to playing in Dream Theater and his solo career, Rudess has worked with a wide range of artists, including Deep Purple, David Bowie, Steven Wilson, Jan Hammer, Enrique Iglesias, the Paul Winter Consort, Annie Haslam, Liquid Tension Experiment (with John Petrucci, Mike Portnoy, and Tony Levin), LMR (with Tony Levin and Marco Minneman), Blackfield, Aviv Geffen, the Dixie Dregs, Rod Morgenstein, and Tony Williams among others.

His interest in state-of-the-art keyboard controllers and music apps is another area of his career in which he has achieved success. Rudess owns the successful app development company

Wizdom Music, creators of award-winning apps such as MorphWiz, SampleWiz, and Geo Synthesizer. Wizdom Music's latest app, GeoShred, was created in collaboration with moForte, founding members of Stanford University's Sondius team. In addition, Rudess is the author of two keyboard technique books including his latest, *Total Keyboard Wizardry: A Technique and Improvisation Workbook*. Recently, he was an artist-in-residence at Stanford University's Center for Computer Research in Music and Acoustics (CCRMA).

About the Media Lab

At the intersection of engineering, design, science, and art, the MIT Media Lab is an interdisciplinary creative playground rooted in academic excellence, made up of dozens of research groups, initiatives, and centers working collaboratively on hundreds of projects. Our overarching research themes address global challenges from wellbeing and cryptocurrencies to robotics and sustainable futures. Committed to diversity, equity, and inclusion, the MIT Media Lab collaborates with corporations, governments, NGOs, donors, and others around the globe to drive impactful change across sectors. Learn more at media.mit.edu.

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