

Richard Savery

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Current Appointment

University of Canberra

DECRA RESEARCH FELLOW

2026+

- Robot Musicians: Long-term Use, Group Dynamics, and Artificial Intelligence

Recent Employment

Jen Music

SENIOR DATA SCIENTIST

2025

Developed Jenetics Genome tagger and retrieval-augmented generation (RAG) workflows for AI music generation, including dataset management, post-processing pipelines, and LoRA-based model adaptation.

Macquarie University Research Fellowships (MQRF)

MCCALL, FACULTY OF ARTS

2022–2024

- Full-time research position, developing new robotic musicians
- Created systems that rap, play drums and compose music in real-time with human musicians

Education

Ph.D. Music Technology (Minor in Human-Computer Interaction)

GEORGIA INSTITUTE OF TECHNOLOGY

2017–2021

- Dissertation: Machine Learning Driven Musical Approaches for Real-Time Human-Robot Interaction
- Advised by Gil Weinberg (Chair), Claire Arthur and Ayanna Howard
- Fully funded with stipend through Graduate Research Assistantship

M.F.A Integrated Composition, Improvisation and Technology

UNIVERSITY OF CALIFORNIA, IRVINE

2013–2015

- Masters Thesis: Algorithmic Improvisers
- Fully funded with stipend through Graduate Research/Teaching Assistantship

B.Mus (Jazz Performance)

SYDNEY CONSERVATORIUM OF MUSIC, UNIVERSITY OF SYDNEY

2008–2011

Grants & Awards

My current and past academic positions were dedicated full-time to research, during which I have received as chief investigator AUD \$3,876,880 in total funding, from both government and industry bodies. I have received a DECRA (valued at \$479,66) from the Australia Research Council, and two grants from the National Science Foundation, as part of its National Robotics Initiative, to develop audio driven forms of communication to improve safety in industrial robotics (totalling AUD \$1,912,267). I have also worked with five funded industry partners (totalling AUD \$835, 830), developing licenced projects in a range of areas, including IVF sonification, soccer sonification and development of musical AI.

ARC Discovery Early Career Researcher Award (DECRA)

DE250100275: ROBOT MUSICIANS: LONG-TERM USE, GROUP DYNAMICS, AND ARTIFICIAL INTELLIGENCE

2025 to 2027

- AU\$486,000.00 grant

National Science Foundation - National Robotics Initiative

DATA DRIVEN PREDICTIVE AUDITORY CUES FOR SAFETY AND FLUENCY IN HUMAN-ROBOT INTERACTION

2023 to 2025 (awarded, written Dec 2021)

- US\$422,254.00 grant for Human Robot Interaction
- Chief Investigator with advisor Gil Weinberg

Macquarie Minds and Intelligence Initiative

INVESTIGATING INTERRUPTION DYNAMICS AND COMMUNICATION MODALITIES IN HUMAN-AI INTERACTION WITHIN MUSIC

2024

EDUCATION

- AU\$5000 grant to conduct two studies into human-AI interaction

Faculty of Arts Travel Scheme

SOUTH KOREA ROBOTICS AND INTERNATIONAL CONFERENCE FOR COMPUTER MUSIC

July 2024

- AU\$3104.85 to attend conference and meet local robotics researchers

MQ Research Infrastructure Scheme (Small)

MUSICAL ROBOTICS AND PERFORMANCE TECHNOLOGY DEVELOPMENT LAB

2023

- \$60,990.00 grant for Human Robot Interaction
- Chief Investigator

Centre for Performance, Expertise, Macquarie University, Short-Term Research Support

MUSICIAN EYE-TRACKING

- \$3000 grant for pilot collaboration with Macquarie Medical School,
- Chief Investigator with Dr Antonio Di Ieva

2022

Safety-Net Pilot Project

SO LONG PIANO MAN? AN EXPERIMENTAL ANALYSIS OF AI SONG REPRODUCTIONS

- \$10,000 grant for interdisciplinary study with Macquarie Business School
- Chief Investigator with advisor Dr Paul Crosby and Dr Jordi McKenzie

2022

Macquarie University Research Fellowship

ROBOTIC MUSICIANSHIP: DEVELOPING A PLATFORM FOR NOVEL MUSICAL ARTIFICIAL INTELLIGENCE INTERACTION?

- \$386,623 salary costs
- \$49,000 Budget For Expenses

2022 to 2024

National Science Foundation - National Robotics Initiative

CREATING TRUST BETWEEN GROUPS OF HUMANS AND ROBOTS USING A NOVEL MUSIC DRIVEN ROBOTIC EMOTION GENERATOR

- US\$803,892 grant for Human Robot Interaction
- Chief Investigator with advisor Gil Weinberg

2019 to 2021

Georgia Tech School of Computational Science and Engineering Nvidia Fellowship

NVIDIA JETSON TX2 MARKETING CAMPAIGN

- US\$50,000 grant to develop new project for a promotional video using a Nvidia Jetson

2018

Hyphen-Hub and Bell Labs (USA)

HOW THE LIGHT GETS IN

- US\$10,000 grant to develop a new concert

2018

Australia Council for the Arts: Art Start Grant

EARLY CAREER GRANT

- \$10,000 for Development of Album, Website and Music Printing

2013-2015

- 2025 **NSW Tall Poppy Science Award**, Australian Institute of Policy and Science (AIPS). Awarded in recognition of contributions that bridge cutting-edge research with broader societal impact, including innovative work in human-robot interaction and creative AI systems such as musical robotics.
- 2022 **IMPACT Program Runner Up**, Macquarie Incubator Start-up Pitch Contest
- 2020 **Guinness World Record**, First robot to participate in a rap battle
- 2020 **Best Student Paper**, International Conference on Computational Creativity
- 2019 **Jazz Denmark Prize**, Awarded for the most innovative and creative concert experience of the year
- 2018 **Winner Moog Hackathon**, Georgia Tech
- 2017 **Best Indie Game Audio (Nominee): Orchestrator for Gunman Taco Truck**, Game Audio Network Guild
- 2017 **Best Music in a Casual/Social Game (Nominee): Orchestrator for Gunman Taco Truck**, Game Audio Network Guild
- 2015 **Best Indie Game Audio (Winner): Orchestrator for Gathering Sky**, Game Audio Network Guild
- 2015 **Best Interactive Score (Nominee): Orchestrator for Gathering Sky**, Game Audio Network Guild
- 2015 **Best Music in a Casual Game (Nominee): Orchestrator for Gathering Sky**, Game Audio Network Guild
- 2015 **Best Handheld Audio (Nominee): Orchestrator for Gathering Sky**, Game Audio Network Guild
- 2015 **Distinguished Service Award**, Game Audio Network Guild
- 2015 **Associated Graduate Students Research Grant**, University of California, Irvine
- 2015 **Claire Trevor School of the Arts Research Grant**, University of California, Irvine
- 2013 **Creative Young Stars Program**, Ryde City Council
- 2013 **Field Recording Competition Winner**, HISS and Roar
- 2007 **Pat Corrigan Recording Scholarship**, International Association of Jazz Education

Selected Press

My performance works have proven high impact beyond academia. A recent example of my capacity to translate and disseminate research was my work with Shimon, a rapping hip hop robot, which was featured in Scientific American and on BBC Radio and a Disney+ episode of The World According to Jeff Goldblum (featuring Goldblum interacting with the robotic system). I have regularly been approached by different media companies for featuring in production and news articles. This has included a range of media types, including articles in the Scientific American, IEEE Spectrum, Daily Mail and Gizmodo. I have also regularly been featured in video productions, including shows on Disney+, Freethink Media and TV2 Ostjylland as well as radio, including an hour long feature on BBC Radio.

Dec 2025	Jorja Smith's AI lawsuit , ABC triple j Hack (ABC triple j Hack) Interview	Link
Oct 2025	Keirzo: The robot that can spit rhymes, keep time, and make you think about AI , NSSN (Diane Nazaroff)	Link
May 2024	Drum roll please ... this robot makes original rap in real time in Wodonga , The Border Mail (Jodie Bruton)	Link
Oct 2024	Guide, Steer, Repeat: Applications of AI in arts, culture and creativity, and how Australia should respond , A New Approach (Alan Hui, Kate Fielding, Sari Rossi)	Link
Nov 2023	Giving cobots the human touch through biomimicry , UTS News (Robyn Barden)	Link
Oct 2023	Studio 10 interview with Daniel Doody , Channel 10	
Oct 2023	Come Alive at Parramatta Lanes, Interview with Parramatta Lord Mayor Pierre Esber , Herald Sun	4:58 Video Link
Sep 2023	Rap with Robots , The National Tribune	Link
July 2023	Robot Rock — A Viable New Music Genre , 2SER 107.3	Link
Mar 2023	Meet the band's new drummer ... Keirzo the robot , The Lighthouse	Link
Jan 2023	Musical Robots , 2SER 107.3	Link
July 2022	Rapping robots, musical machines, and creative AI , The B-Side with James Barrow	Link
June 2022	10 questions with... Richard Savery , This Week MQ, 12th June, 2022	Link
December 2021	The World According to Jeff Goldblum Season 2 , Disney+, (episode featuring my robotic hip hop and jazz generations)	
Dec 2020	This Robot Can Rap—Really , Scientific American	
Apr 2020	It's Robot Versus Human as Shimon Performs Real-Time Rap Battles , IEEE Spectrum	
Apr 2020	Can a Robot Really Freestyle? , Freethink Media	
Mar 2020	Bob Dylan: Singer-songwriter robot called Shimon can write its own lyrics after studying tens of thousands of words penned by the musical greats - and has an album out in the Spring , Daily Mail	
Mar 2020	Shimon: Singer, songwriter, robot , National Science Foundation	
Mar 2020	Singer-Songwriter Robot is Heading Out on Tour , Futurity	
Mar 2020	There really is a robot releasing music on Spotify , Music All	
Mar 2020	Musical Robot Learns to Sing, Has Album Dropping on Spotify , IEEE Spectrum	
Feb 2020	Shimon the Singing Robot Is Both Creepy and Captivating , Gizmodo	
Oct 2019	Robot plays jazz with Danish musicians: It improvises in a completely different way , DR DK	
Sep 2019	Bigband spiller koncert med avanceret Marimba-robot , TV2 Ostjylland	
Mar 2019	Shimi Will Now Sing to You in an Adorable Robot Voice , IEEE Spectrum	
Feb 2019	Together, Man and Robot Write Film Score , Georgia Tech's Presidents Update	
Dec 2018	Review: Like Walking on Mars , Studio International	

Publications

EDITED BOOKS

Yuji Sone and Richard Savery, *Cultural Technologies: Robots and Artificial Intelligence in the Performing Arts* Routledge, (forthcoming 2025)

Stephan Böhm, Stephen Collins, Alexander Godulla, Sarah Keith, and Richard Savery (eds.), *Handbook of AI-based Media Disruption: Emerging Technologies and Multidisciplinary Perspectives Across Sectors* Springer, (forthcoming 2025)

Richard Savery, *Sound and Robotics: Speech, Non-verbal Audio and Robotic Musicianship* CRC Press, 2023

BOOK CHAPTERS

Richard Savery, Trinity Melder, and Melissa Hill, *What do I Say? Public Interactions with a Drumming and Rapping Robot* Cultural Technologies, Routledge, 2025, pp. 160–180

Richard Savery, Amit Rogel, and Gil Weinberg, *Robotic Dancing, Emotional Gestures and Prosody: A Framework for Gestures of Three Robotic Platforms* Sound and Robotics, Chapman and Hall (CRC), 2024, pp. 285 to 316

Richard Savery, Amit Rogel, Lisa Zahray, and Gil Weinberg, *How Happy Should I be? Leveraging Neuroticism and Extraversion for Music-Driven Emotional Interaction in Robotics* Sound and Robotics, Chapman and Hall/CRC, 2024, pp. 199–218

Aimee Allen, Richard Savery, and Nicole Robinson, *Consequential Sounds and Their Effect on Human Robot Interaction* Sound and Robotics, Chapman and Hall/CRC, 2023, pp. 101–127

Richard Savery, Amit Rogel, and Gil Weinberg, *Augmenting a Group of Task-Driven Robotic Arms with Emotional Musical Prosody* Sound and Robotics, Chapman and Hall/CRC, 2024, pp. 219–240

Richard Savery and Trinity Melder, *The Landscape of Sound and Robotics* Sound and Robotics, Chapman and Hall/CRC, 2023, pp. 1–6

Richard Savery, Anna Savery, Martim S. Galvão, and Lisa Zahray, *Navigating Robot Sonification: Exploring Four Approaches to Sonification in Autonomous Vehicles* Sound and Robotics, Chapman and Hall/CRC, 2023, pp. 159–175

Richard Savery, Lisa Zahray, Gil Weinberg, *Shimon Sings - Robotic Musicianship Finds its Voice* Handbook of Artificial Intelligence and Music, Springer, 2021

Richard Savery, Lisa Zahray, Gil Weinberg, *A ConvNet for Ethical Robotic Musical Generation and Interaction* Artificial Intelligence and Creative Music Practice, Routledge, 2021

PEER REVIEWED JOURNALS

Richard Savery, Daniella Gilboa, and Gil Weinberg, *IVF sonification: making music to the rhythm of life*, Interacting with Computers, Volume 37 (6), 2025, pp. 568–576

Richard Savery, Gil Weinberg, *Robots and emotion: a survey of trends, classifications, and forms of interaction*, Advanced Robotics Volume 35, 2021

Richard Savery, Lisa Zahray, Gil Weinberg, *Before, Between, and After: Enriching Robot Communication Surrounding Collaborative Creative Activities* Frontiers in Robotics and AI: Creativity and Robotics, 2021

Richard Savery, Lisa Zahray, Gil Weinberg, *Emotional Musical Prosody for the Enhancement of Trust: Audio Design for Robotic Arm Communication* Paladyn Journal of Behavioral Robotics, 2021

Richard Savery, *An interactive algorithmic music system for EDM* Dancecult: Journal of Electronic Dance Music Culture 10 (1), 2018

PEER REVIEWED CONFERENCES (PROCEEDINGS PUBLISHED)

Amit Rogel, Jack Hayley, Richard J. Savery, and Gil Weinberg, *What Sounds Dangerous? Establishing Correlations of Musical Features and Perceived Safety in HRI* 2025 20th ACM/IEEE International Conference on Human-Robot Interaction (HRI), 2025, pp. 1578–1582

Richard Savery, *Cautious Optimism: Parents' Views of a Robotic Music Tutor* Proceedings of the 13th International Conference on Human-Agent Interaction, 2025, pp. 378–380

Trinity Melder and Richard J. Savery, *LightSpeak: Conveying Human Emotions through Minimalist LED Expression* Proceedings of the 13th International Conference on Human-Agent Interaction, 2025, pp. 461–463

Richard Savery, Anna Savery, and Justin Baird, *ViolinBrush: Human-Expressive Mappings for Real-Time Robotic Painting* Proceedings of the 13th International Conference on Human-Agent Interaction, 2025, pp. 467–469

Trinity Melder and Richard Savery, *Exploring Human Perceptions of AI-Driven Musical Robots: A Study on RoSAS with Keirzo* 2025 34th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN), 2025, pp. 722–727

Richard Savery and Fouad Sukkar, *Long-Term, Store-Front Robotics: Interactive Music for Robotic Arm, Caxixi and Frame Drums* International Computer Music Conference 2024

Trinity Melder and Richard Savery, *Artificial Intelligence and Home Music Listening: An Overview And Future Directions* Proceedings of the 19th International Audio Mostly Conference: Explorations in Sonic Cultures, 2024, pp. 318 to 324

Trinity Melder and Richard Savery, *Harmonious Touch: Haptic Wristband for Home Listening Experience* Proceedings of the 19th International Audio Mostly Conference: Explorations in Sonic Cultures, 2024, pp. 392 to 398

Anna Savery and Richard Savery, *Collaboration Between Robots, Interfaces and Humans: Practice-Based and Audience Perspectives* International Computer Music Conference 2024

Fouad Sukkar, Richard Savery, Nadimul Haque, Cedric Le Gentil, R. Guenot Falque, and Teresa Vidal Calleja, *A Robotic System For Imitating Human Percussionists* Australasian Conference on Robotics and Automation 2023

Amit Rogel, Richard Savery, and Ning Yang, *Robogroove: Creating fluid motion for dancing robotic arms* Proceedings of the 8th International Conference on Movement and Computing, 2022

Richard Savery, Anna Savery, and Justin Baird, *Robotic arm generative painting through real-time analysis of music performance* Proceedings of the 10th International Conference on Human-Agent Interaction, 2022, pp. 253–255

Jibing Shi and Richard J. Savery, *Partners Who Grow Together: Collaborative Machine Learning in Video Game AI Design* Proceedings of the 10th International Conference on Human-Agent Interaction, 2022, pp. 269–271

Richard Savery, Amit Rogel and Gil Weinberg, *Emotion Musical Prosody for Robotic Groups and Entitativity* 30th IEEE International Conference on Robot & Human Interactive Communication, 2021

Richard Savery, Gil Weinberg, *Machine Learning Driven Musical Improvisation for Mechanomorphic Human-Robot Interaction* ACM/IEEE International Conference on Human-Robot Interaction, 2021

Nic Farris, Brian Model, Richard Savery, Gil Weinberg, *Musical Prosody-Driven Emotion Classification: Interpreting Vocalists Portrayal of Emotions Through Machine Learning* 18th Sound and Music Computing Conference, 2021

Naveen Ram, Tanay Gummadi, Rahul Bhethanabotla, Richard J Savery, Gil Weinberg, *Say What? Collaborative Pop Lyric Generation Using Multitask Transfer Learning* Proceedings of the 9th International Conference on Human-Agent Interaction, 2021

Richard Savery, Lisa Zahray, Gil Weinberg, *Shimon the Rapper: A Real-Time System for Human-Robot Interactive Rap Battles* International Conference on Computational Creativity, 2020

Richard Savery, Lisa Zahray, Gil Weinberg, *Emotional Musical Prosody for the Enhancement of Trust in Robotic Arm Communication* Trust, Acceptance and Social Cues in Human-Robot Interaction, Ro-MAN 2020

Richard Savery, Gil Weinberg, *A Survey of Robots and Emotion: Broad Trends and Models of Emotional Interaction* 29th IEEE International Conference on Robot & Human Interactive Communication, 2020

Lisa Zahray, Richard Savery, Liana Syrkett, Gil Weinberg, *Robot Gesture Sonification to Enhance Awareness of Robot Status and Enjoyment of Interaction* 29th IEEE International Conference on Robot & Human Interactive Communication, 2020

Richard Savery, Lisa Zahray, Gil Weinberg *Emotional Musical Prosody: Validated Vocal Dataset for Human Robot Interaction* Joint Conference on AI Music Creativity, 2020

Ning Yang, Richard Savery, Raghavasimhan Sankaranarayanan, Lisa Zahray, Gil Weinberg, *Mechatronics-Driven Musical Expressivity for Robotic Percussionists* New Interfaces for Musical Expression, 2020

Richard Savery, Gil Weinberg, *Long-Term Interaction and Persistence of Engagement for Musical Interaction using a Genetic Algorithm* Proceedings of the 8th International Conference on Human-Agent Interaction (HAI '20)

Richard Savery, Ryan Rose, Gil Weinberg, *Establishing Human-Robot Trust through Music-Driven Robotic Emotion Prosody and Gesture* 28th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN), Delhi, India, 2019

Richard Savery, Madhukesh Ayyagari, Keenan May, Bruce Walker, *Soccer Sonification: Enhancing Viewer Experience* The 25th International Conference on Auditory Display, UK, ICAD 2019

Richard Savery, Benjamin Genchel, Jason Smith, Anthony Caulkins, Molly Jones, Anna Savery, *Learning from History: Recreating and Repurposing Sister Harriet Padberg's Computer Composed Canon and Free Fugue* New Interfaces for Musical Expression, Porto Alegre, Brazil, 2019

Richard Savery, Ryan Rose, Gil Weinberg, *Finding Shimi's Voice: Fostering Human-Robot Communication With Music And a NVIDIA Jetson TX2* 17th Linux Audio Conference (LAC-19), CCRMA, Stanford University, USA, 2019

Richard Savery, Benjamin Genchel, Jason Smith, and Molly Jones, *Harriet Padberg: Computer-Composed Canon and Free-Fugue Renaissance* Society for Music Theory 42nd Annual Meeting, Ohio, USA, 2019

Richard Savery, Gil Weinberg, *Shimon the Robot Film Composer and DeepScore*
Computer Simulation of Musical Creativity, Dublin, Ireland, 2018

DISSERTATION AND THESIS

Machine Learning Driven Emotional Musical Prosody for Human-Robot Interaction

Georgia Tech, PhD Dissertation

Committee: Dr Gil Weinberg (Advisor), Dr Claire Arthur, Dr Jason Freeman, Dr Ayanna Howard

Algorithmic Improvisers

Committee: Chris Dobrian (Chair), Simon Penny, Kojiro Umezaki

2015, University of California, Irvine, Master's Thesis

INDUSTRY EVENTS

Richard Savery, *Deep Learning Applications for Video Game Music*

GameSoundCon, Los Angeles, USA, 2018

PRESENTATIONS AND ARTICLES

Australian Music Association Leadership Summit 2025, Keynote, 2025 (Link)

MQBS: Data and Analytics Research Showcase, 11 April, 2024

Australasian Computer Music Conference 2023, Keynote, Sydney, 2023

Generative AI, Arts and Copyright Symposium, 2023, panelist, Sydney, 2023

Arts After Dark, Keynote, Sydney, 2023

Macquarie University Performance and Expertise Research Centre Colloquium Series, presenter, 2023

Avant-Harde, invited speaker, Sydney, 2023

MARCS Afternoon Colloquium, invited speaker, Western Sydney University, 2022

AI@MQ Industry Forum, invited speaker, 2022

MQ Faculty of Arts Research Showcase, invited speaker, 2022

Robots, AI and Culture Symposium, panel chair, 2023

Avant-Harde, invited speaker, Sydney, 2023

MARCS Aftenoorn Colloquium, invited speaker, WSU, 2022

AI@MQ Industry Forum, invited speaker, 2022

MQ Faculty of Arts Research Showcase, invited speaker, 2022

HRI Pioneers, 2021

ICCC 2020, Doctoral Consortium

OzCHI 2020, Doctoral Consortium Santiago Guisasola, Richard Savery, *Listening in Improvisation*

Ethnomusicology Review 20, 2017 Richard Savery, *Interactive Artificial Voice*

Presented by Hypen Hub, Theater at New Museum, New York, NY, 2019 Richard Savery, *Artificial Intelligence Film Composition*

Museo de la Ciencia y el Cosmos, Tenerife, Canary Islands, 2018 Richard Savery, *Interactive Computer Musicianship and Artificial Improvisers*

Eureka Music conference (UCSC), Santa Cruz, 2015