Derek Kwan

artificial intelligence and music

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Education

Sept. 2023 - **PhD, Oregon State University**, Artificial Intelligence

2021-2023 **MSc, Georgia Institute of Technology**, Computer Science
(GPA: 4.00/4.00)
Specialization: Interactive Intelligence

2011-2015 **DMA, State University of New York, Stony Brook**, Music Performance (Percussion)
(GPA: 3.95/4.00)
Advisor: Eduardo Leandro

2008-2010 **MA, Queens College, City University of New York**, Music Performance (Classical Percussion)
(GPA: 3.975/4.00)

2004-2008 **BASc, University of California, Davis**, Music (Percussion) and General Mathematics
(GPA: 3.708/4.00)

Writing

2021 Alexandre Torres Porres, **Derek Kwan**, Matthew Barber. "Almost 20 years of Cyclone: past, present, and future". Revista Vortex 9 (2), 2021. https://doi.org/10.33871/23179937.2021.9.2.15

2021 Anne Sophie Andersen, **Derek Kwan**. "Grisey's 'Talea': Musical Representation As An Interactive 3D Map". New Interfaces for Musical Expression (NIME), 2021. https://nime.pubpub.org/pub/oiwz8bb7/release/1?readingCollection=71dd0131 (app: https://derekxkwan.github.io/talea-vis/)

2020 Sofy Yuditskaya, Sophia Sun, **Derek Kwan**."Karaoke of Dreams: A multi-modal neural-network generated music experience". Joint Conference on AI Music Creativity (CSMC + MuMe), 2020. https://boblsturm.github.io/aimusic2020/papers/CSMC__MuMe_2020_paper_5.pdf (video: https://www.youtube.com/watch?v=YVYUmCHzzH8)

2016 Alexandre Torres Porres, **Derek Kwan**, Matthew Barber. "Cloning Max/MSP Objects: a Proposal for the Upgrade of Cyclone". Fifth International Pure Data Convention (PdCon), 2016. https://derekxkwan.com/res/pdcon16_cyclone-paper.pdf

Presentations and Workshops

2021 **Karaoke of Dreams: A multi-modal neural-network generated music experience**, online
recorded virtual paper presentation with Sofy Yuditskaya and Sophia Sun for McGill Music Graduate Symposium

2020 **TidalCycles Live Coding Workshop**, Bombay Beach, CA
workshop at Mars College on the TidalCycles electronic music live coding environment

2018 **socketMusic: wireless**, Lewiston, ME
presentation and performance of new revision of my composition for improvised percussion, electronic sound, and mobile devices at Bates Digital Music Symposium

Teaching

2017 **Temporary Lecturer**, Music 107A: Introduction to Electronic Music I, UC Davis
overview of electronic music history, recording studio basics, and fixed-media composition

Other Professional Experience

2020-2021 **Music and Digital Art Curator, Art Music Lit Space**, online
write content (curation and exhibition statements) for the virtual exhibition space

2013-2015 **Lab Assistant and Programmer, SBU Teaching Learning Lab**, Stony Brook NY
Working under Paul St. Denis with SBU faculty on interactive digital media projects investigating novel methods of human-computer interaction and full-stack web application development for class-oriented learning tools and data visualization

2013 **Audio/Video Collections Manager, SBU Music Library**, Stony Brook, NY
Archival activities for the music library's analog and digital media

2012-2013	**Graduate Assistant, SBU Computer Music Studio**, Stony Brook, NY
	Live sound reinforcement and technology management for music department concerts and setting up and running a new campus recording studio
2011-2012	**Graduate Assistant, SBU Contemporary Chamber Players**, Stony Brook, NY
	Organization and planning of concerts and rehearsals
2010-2011	**Private Instructor in Percussion (freelance)**, Flushing, NY

Fellowships and Residencies

2022	**Composer Residency, Virginia Center for the Creative Arts**, Amherst, VA
2020	**Project Participant and Contributor, Art-a-Hack Dancedemic**, New York, NY / online
	remote hackathon in conjunction with Battery Dance Festival (https://artahack.io/projects/hieroglyph/)
2010	**Performance Fellow, Bang on a Can Summer Music Institute**, North Adams, MA
2008	**Performance Fellow, soundSCAPE Composer and Performance Exchange**, Pavia, Italy
2007	**Performance Fellow, International Marimba Festival**, Salzburg, Austria

Exhibitions

2020	**Small File Media Festival**, Vancouver, BC
	glitch video *bombaybeach* featured at online festival
2019	**Music Makers Art Exhibition at Hacker Lab**, Sacramento, CA
	featuring my computer-generated visual art *studious overachieving*, *polyhealth*, and *catmoticon portraits* alongside other visual art by musicians
2019	**The Brickhouse Art Gallery**, Sacramento, CA
	month-long curation of work alongside work by Tavarus Blackmon and Boris Allenou

Honors and Awards

| 2008 | **Phi Beta Kappa, University of California, Davis** |

Relevant Graduate Coursework

Georgia Tech

Deep Learning
Machine Learning
Artificial Intelligence
Knowledge-Based AI
Computer Vision
Robotics: AI Techniques
Human-Computer Interaction
Educational Technology
Computer Networks
Software Development Process

Projects

| 2022 | **Rhythm OLMITS** |
| | an intelligent tutoring system for teaching musical rhythm performance originally developed for Georgia Tech's EdTech class (paper: https://smartech.gatech.edu/handle/1853/67085, code: https://github.com/derekxkwan/rhythm_olmits) |

Skills

General programming - **Python**, (Scikit-learn, Numpy, Matplotlib, OpenCV), **C, Java, JavaScript**, (Node.js, Electron, React), **ClojureScript**
Audio programming - **Pure Data, SuperCollider, TidalCycles, various DAWs**, (Logic, Ardour)
Other creative computing - **Processing**, basic physical computing with **Arduino**
Git, daily use of **Linux**