

# 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](https://boblsturm.github.io/aimusic2020/papers/CSMC_MuMe_2020_paper_5.pdf) (video: <https://www.youtube.com/watch?v=YVYUmCHzH8>)
- 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](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](https://github.com/derekxkwan/rhythm_olmits))

## Skills

General programming - **Python**, (Scikit-learn, Numpy, Matplotlib, PyTorch, 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**