

# RAY L C

neuro . tech . art

## PROFILE

creative technology  
and interactive art in-  
spired and supported  
by multidisciplinary  
understanding of  
human behavior.



## EXHIBITION / AWARDS

- 2020 "[DECERTAINFY](#)" at Burning Man BRCvr
- 2020 "[SHAMIMA: Memory in My Heart](#)" at New York Short Documentary Film Fest
- 2020 "[Network Intelligence](#)" CICA Museum
- 2020 "[Skin of Our Sheath](#)" EdgeCut NewMuseum
- 2019 "[A Case for Play](#)" NeON digital arts festival
- 2019 Ars Electronica [Future Innovator](#) summit
- 2019 "[Technology and Social Good](#)" curator
- 2019 ICRA-X Robotic Art "[Expressive Motions](#)"
- 2019 "[An Immersive Rohingya Experience](#)" [Ars Electronica](#) Linz; [THP ArtLab](#) Lahore
- 2019 "[Machine Gaze](#)," NYSCI, cur. Liz Slagus
- 2019 "[Creative Flow](#)" exhibit, De Construct
- 2019 [Creative Tech Week](#) art talk, cur. I. Draves
- 2019 [Critical Creative Practice](#) keynote Northeastern University, cur. D. Curry
- 2019 [A' Design Award in Social Design](#)
- 2018 "[FLORA](#)" exhibition, Java Studios NYC
- 2018 "[Artistic Intelligence](#)" [ISCMA](#) CityU HK
- 2018 "[gARment](#)," NYCMediaLab, cur. J. Hendrix
- 2018 [Adobe Design Achievement award](#)
- 2018 [Microsoft Imagine Cup finalist](#) for VRbal: VR training for speech therapy.
- 2017 "[Secret Lives of Machines](#)" exhibit Parsons
- 2017 [Best Presentation](#) Verizon AI Design Jam
- 2016 [Falling Walls](#) speaker, Tokyo Japan
- 2015 "[3rd Skin](#)" performance, Tokyo Golden Egg
- 2014 "[ダンス目なし](#)" photos, 12th 1\_Wall show
- 2014 "[Kapayaan](#)" Bohol Center, cur. Cabarrus
- 2013 "Implicit Mirror" BankArt NYK at TPAM
- 2013 "Species Descent" Kiyoshi Saito Museum

## EDUCATION

- 2017 - 2020 | Parsons School of Design  
Design and Technology, MFA 2020
- 2013 - 2017 | Tokyo MODE Gakuen (東京モード学園)  
Fashion Design and Technology, MPS 2017
- 2000 - 2003 | University of California, Berkeley  
Electrical Engineering and Computer Sciences, BS 2003

## RESEARCH / DESIGN

- CORNELL TECH FUTURE AUTONOMOUS RESEARCH LAB | 2017 - 2020  
[Research](#): building interactive chairs for gestural interactions (with Wendy Ju).
- PARSONS SCHOOL OF DESIGN | 2017 - 2019  
[Design](#): 3D poetry installation (Jess Irish), smart objects shy lamp (Carla Diana).
- LOOMIA CREATOR LAB | 2017 - 2018  
[Design](#): smart textile clothing for gesture-based 3D dance environment UX.
- RIKEN BRAIN SCIENCE INSTITUTE | 2013 - 2016  
[Research](#): rewards are necessary to extinguish PTSD stress (Josh Johansen lab).
- UNIVERSITY OF CALIFORNIA LOS ANGELES | 2007 - 2012  
[Research](#): modeling inhibitory movement circuits in cerebellum (Tom Otis lab).
- PALO ALTO RESEARCH CENTER | 2003 - 2005  
[Research](#): particle filter for predicting human motion in clutter (David Fleet lab).
- UC BERKLEY GROUP FOR USER INTERFACE RESEARCH | 2002 - 2005  
[Design](#): gesture-recognition post-it wall UI/UX in web design (James Landay).

## GRANTS / RESIDENCIES

- 2020 [Kyoto Institute of Technology designer-in-residence](#): spec storytelling for influence.
- 2020 [Kone Foundation Saari artist-in-residence](#): human perception of broken machines.
- 2019 [Davis Peace Prize](#): for interactive VR documentary of Rohingya refugee camps.
- 2019 [NYSCI New York Hall of Science designer-in-residence](#): educating computer vision.
- 2018 [Brooklyn Fashion Design Accelerator residency](#): Tek Tiles smart textiles design.
- 2018 [Yahoo-Verizon Sports-Media-Tech startup grant](#): for 5G stadium app for AR views.
- 2018 [Verizon Connected Futures III grant](#): AI-based VR for emotional training for autism.
- 2017 [Process Space LMCC Governor's Island](#): gesture recognition in dance music improv.
- 2015 [JSPS Kakenhi Wakate B grant-in-aid](#): (科研費若手) for young scientists 25871125.
- 2013 [1\\_Wall at Guardian Garden residency](#): communication of dance "without eyes."
- 2012 [BankArt Studio Yokohama residency](#): mirroring human implicit acts with wearables.
- 2011 [National Science Foundation DIGSSS training grant](#): Suzhou Cold Spring Harbor.
- 2009 [National Institute of Health Neural Microcircuits grant](#): voltage sensitive dyes UCLA.

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portfolio | [rayLC.org](http://rayLC.org)  
photography | [facebook.com/rayLCphoto](https://facebook.com/rayLCphoto)

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## MEDIA

robotic art  
interactive installation  
mixed media sculpture  
affective computing  
fashion technology  
nonlinear narratives



## AIMS

I create human-machine gesture dynamics with environmental intelligence to let our world talk to us, so we can empathize deeply with others and with ourselves.  
highlight reel: <https://raylc.net/blog/>

## I AM NOT

just an artist, or just a scientist, designer, or engineer, despite working in each as my career. I apply psychology, technology, and creative practice to build interactive experiences that enable empathetic communication, from the multidisciplinary perspectives of neuroscience, installation art, social robotics, and storytelling.

## SELECT PRESS

[Refugee VR narratives @Ars Electronica](#)  
[VR Technology for Social Anxiety patients](#)  
[360 Filmmaking for Social Action](#)  
[Using AI and VR to treat anxiety @Adobe](#)  
[Kinetic fashion for social anxiety](#)

[Designing for a billion: Gandhinagar India](#)  
[Shamima @NYC Documentary Film Festival](#)  
[Gesturize fashion @Loomia Creator Lab](#)  
[Fashion tech for elderly and immobile](#)  
[Unlocking dopamine's role in PTSD](#)

## RECENT WORKS

We stare at our screens and devices all the time. How do machines see us? An interactive exhibition and workshop at NYSCI explores how computer vision detects faces using a knowledge base and movement. We refurbished a supermarket security camera and souped it up with machine learning and motors to show audiences how interactions with intelligent machines in the future depends on human perception.  
[\[Machine Gaze\]](#)

We are always talking about ourselves, thinking about ourselves, taking pictures of ourselves. Using EEG technology to illustrate our obsession about ourselves, I constructed a two-way mirror based on Moritz Wehrmann's Alter Ego installation but made it interactive based on attention signals from NeuroSky headsets. The more we talk and think about ourselves the more we see ourselves, and others see us.  
[\[Look at Me, Think of Me\]](#)

Machines are becoming specialized and hard to understand. Instead of simplifying in the digital realm, I adapt the digital to humans by creating smart devices and spaces that evoke emotional reactions. They can be caring, flaky, trusty, nagging, attention-craving, occasionally angry, and mildly jealous. A harmonious future involves machines that are part of human ecology instead of opposing it.  
[\[Secret Lives of Machines\]](#)

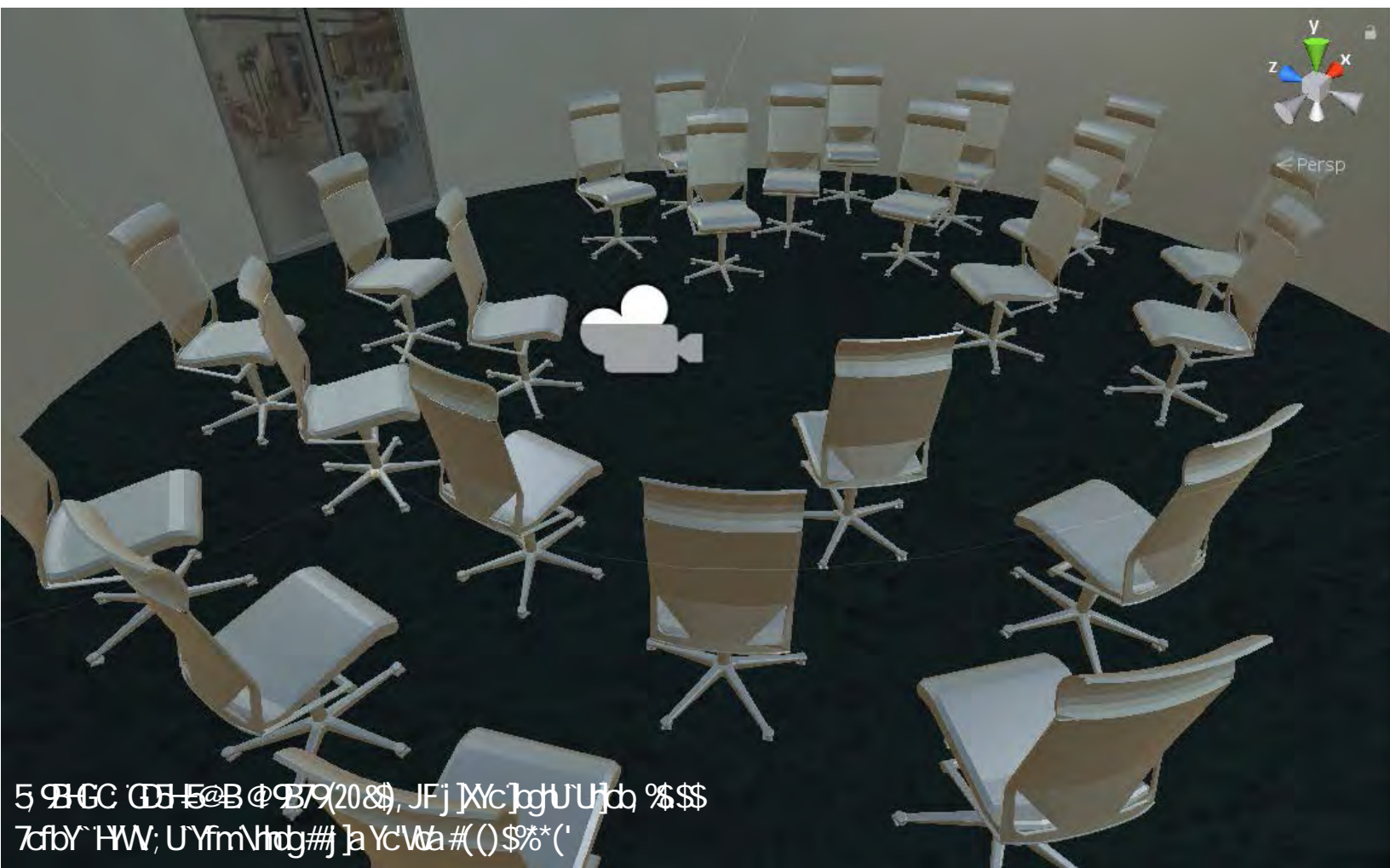
Machine Learning (ML) has been employed to extend human abilities in image and speech processing. Instead of using ML for data mining, I instead take ML agents part of human ecosystems, applying ML to unexpected forms of interactions that subvert what we think machines ought to do, creating situations where ML goes beyond human expectation of what machine intelligence should mean.  
[\[AI: Artistic Intelligence\]](#)





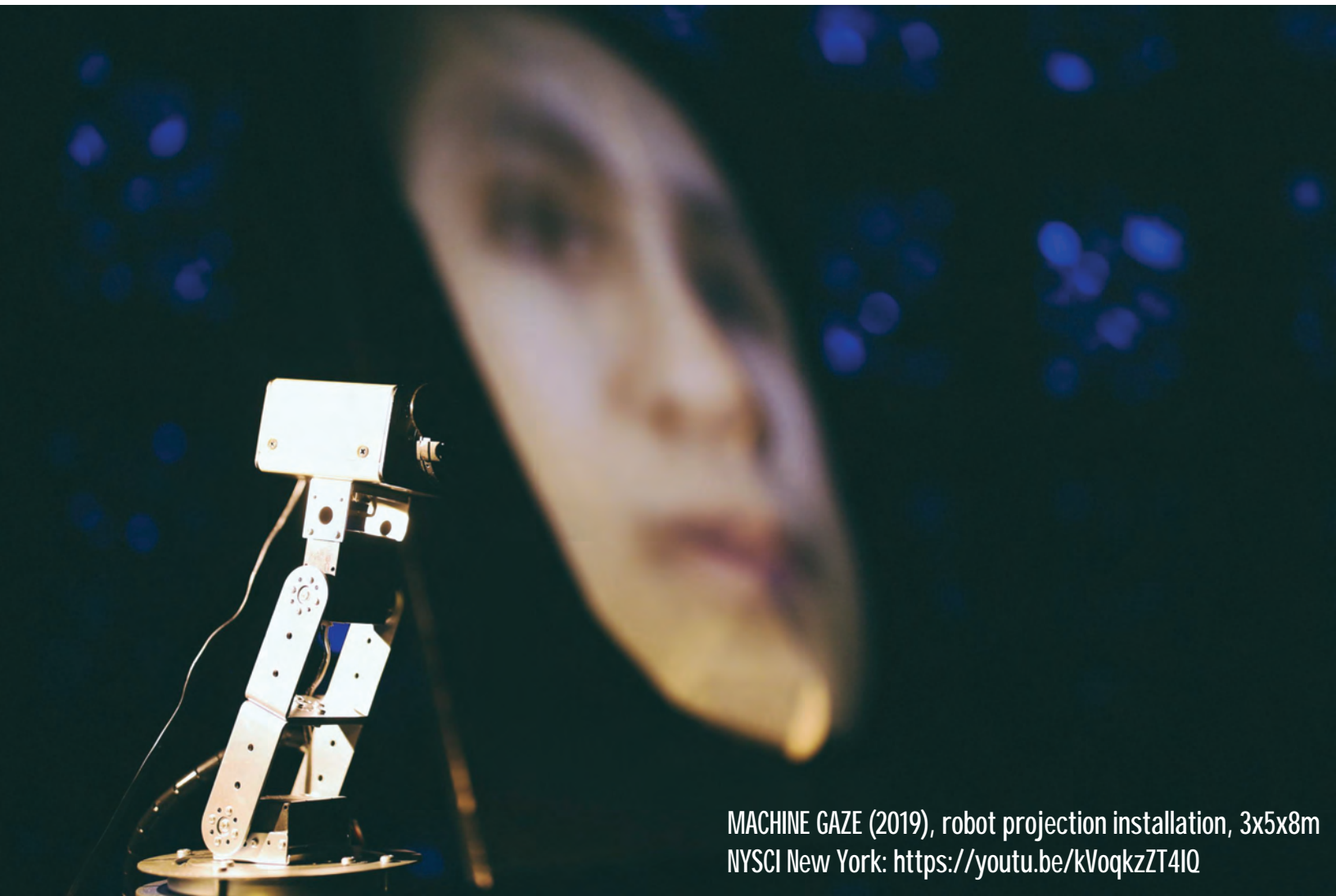
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MACHINE GAZE (2019), robot projection installation, 3x5x8m  
NYSCI New York: <https://youtu.be/kVoqkzZT4IQ>





A LAMP ODYSSEY (2017), mixed media wood electronics aluminum, 0.5x0.2x0.2m  
IEEE ICRA-X Robotic Art Montreal: <https://vimeo.com/330690484>



SECRET LIVES OF MACHINES (2017), mixed media wood electronics plastic, 0.6x0.6x0.3m  
Creative Tech Week NYC: <https://youtu.be/b8liAWU8XXM>





ARTISTIC INTELLIGENCE (2018), mixed media electronics plaster, 0.3x0.3x1m  
Art Machines ISCMA City University HK: <https://youtu.be/fCf6rx2enDc>

You are exploring a junkyard of  
entertainment and technology waste.

Use the glowing controller.  
Entertain yourself at all costs.



FLORA (2019), mixed media projection, 5x5x5m  
CICA Museum: <https://youtu.be/gylW-4XWKY>



LOOK AT ME, THINK OF ME (2018), electronics two-way mirror wood, 4x4x2m  
Parsons Major Major Exhibit: [https://youtu.be/nm0smr\\_ct6E](https://youtu.be/nm0smr_ct6E)



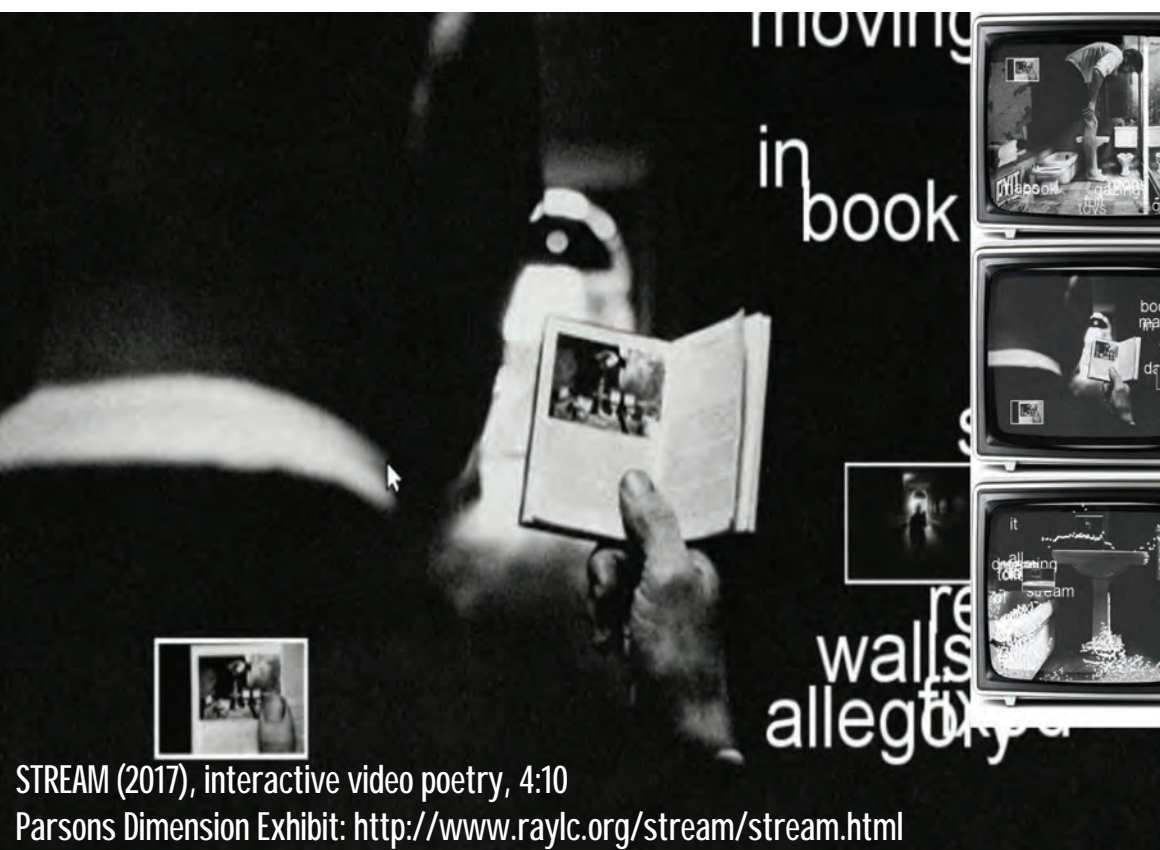


ROHINGYA IN VR (2019), virtual reality, 05:00  
Ars Electronica Linz: <https://youtu.be/idn45nT54kw?t=69>



SHAMIMA: MEMORY IN MY HEART (2019), film, 04:20  
BVGcfh8WaYdufmJa : Ygj U: Vhg##ai hi 'V#nri HfMEk





STREAM (2017), interactive video poetry, 4:10  
Parsons Dimension Exhibit: <http://www.raylc.org/stream/stream.html>





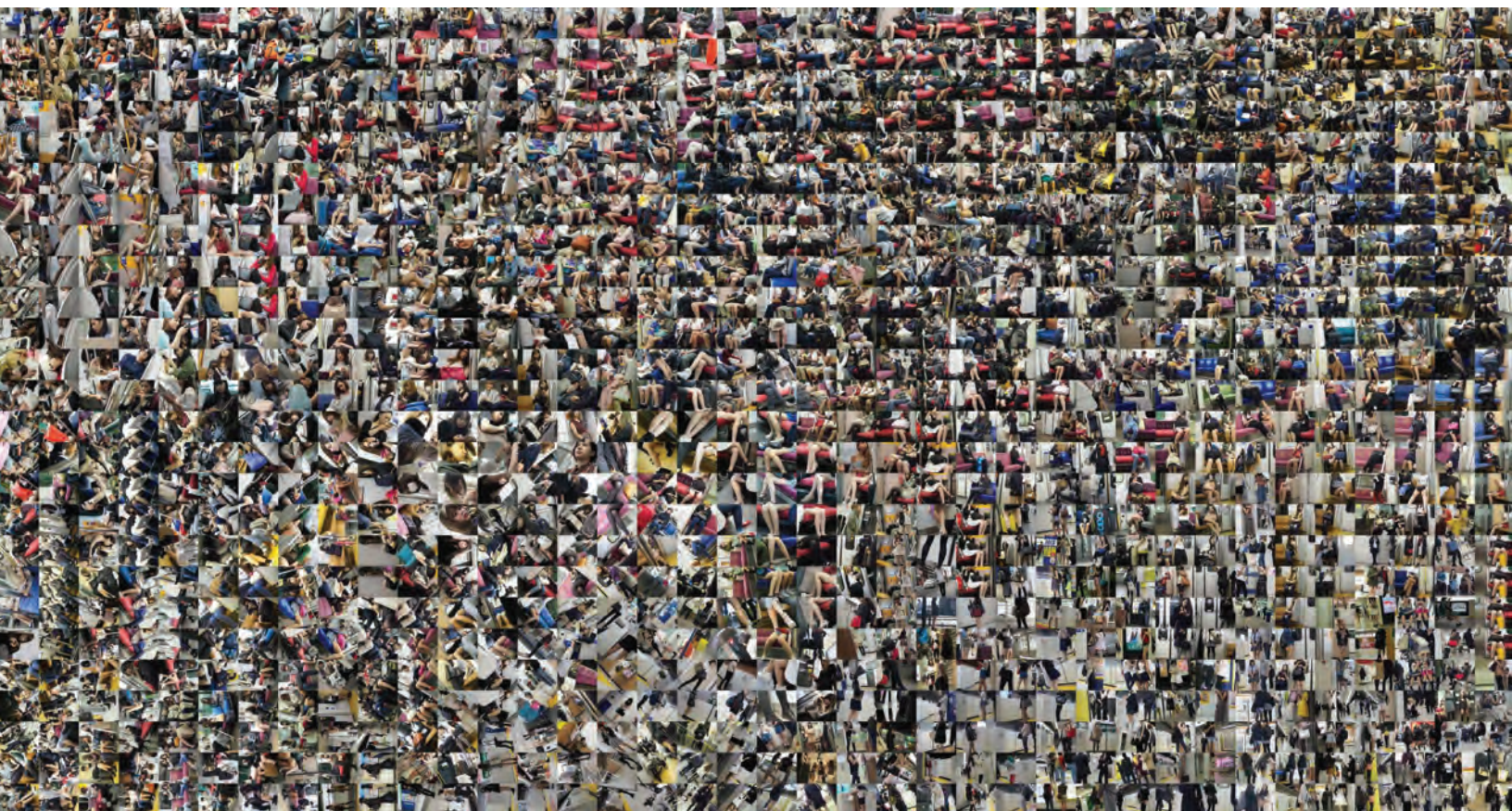
LIVITY (2017), web sound projection, 6x4m  
Java Studios Brooklyn: <http://www.raylc.org/livity/livity.html>



Athlete: Kornelius Denis Korp (KDK)  
 Years in TG: 9  
 Specialty: wave leveling (control)  
 Record: below 250 amp for 1.5 hour continuous telegaming  
 Endorsements: AT&T  
 Advocate: "Game as mental control"  
 Controversy: performance enhancement with ginseng.

H9H9K519; 5A9G(2018), gMwUj YXygl b1ghUjdb, 1.5x1x0.2m  
 Parsons School of Design: \hcg##j Ja Yc'Va #())%&-- \$





METROPOLITAN (2019), machine learning output photography, 8x5m  
NYCMediaLab: <https://raylc.net/portfolio/classifiers-and-generators-explorations-in-ml/>



the science of forgetting is not inscrutable;  
 so much information pokes at our  
 brain  
 for attention that to forget it is  
 forgivable.

i can forget meetings, failures, disputes; capable  
 of conditioning my mind daily to remain  
 sane.  
 the science of forgetting is  
 not inscrutable.

making forgetting a routine is an insightful  
 way to absorb rejection and deal with  
 pain.  
 the science of forgetting is  
 not inscrutable.

i blank out on my age, name, and every syllable  
 i uttered (Emphatic!) to make my existence  
 remain.  
 it moved on before me, but even that's  
 forgivable.

Forget old colleagues' names that aren't so useful;  
 omit trained habits to learn new ones  
 instead.  
 just archive your indices. 'tis all  
 forgivable.

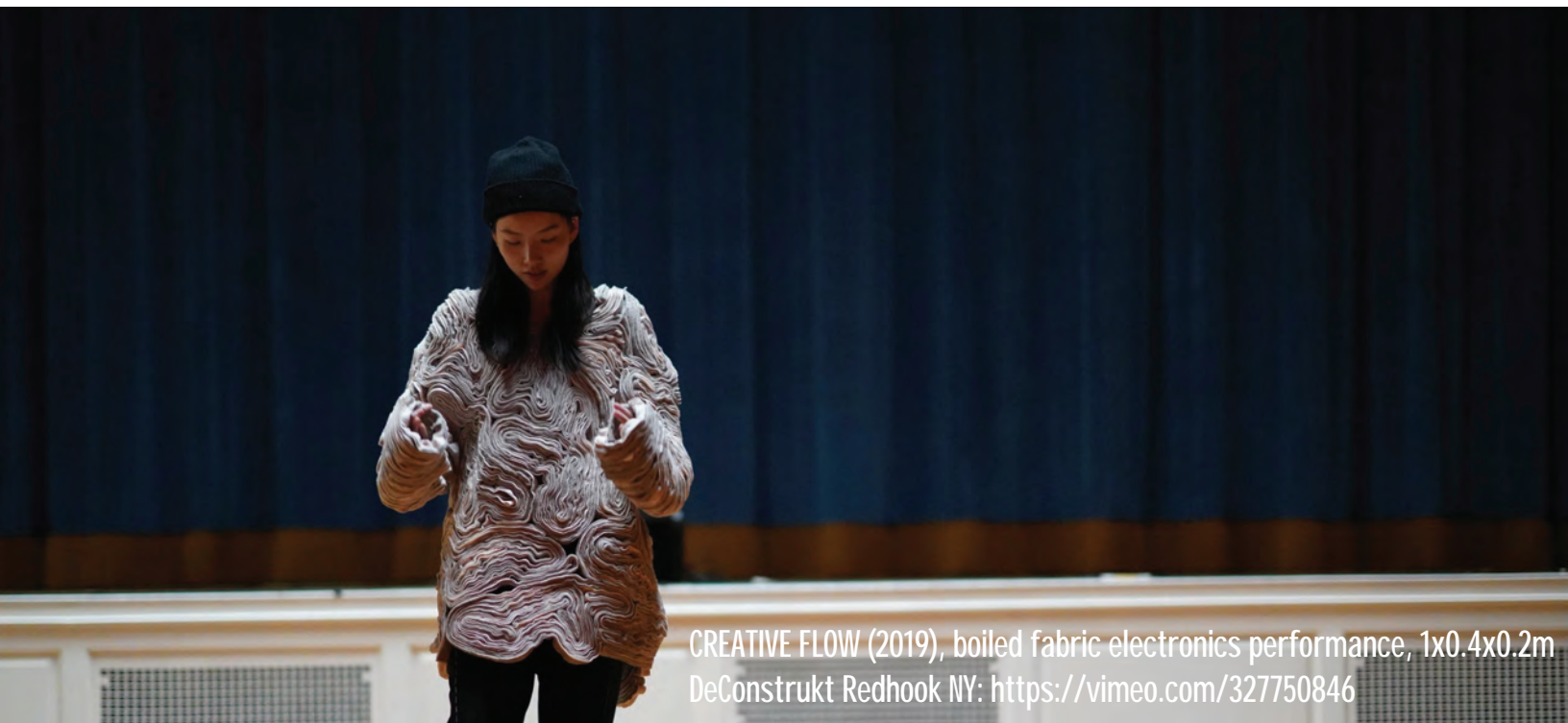
but when you (whose voice moves me, face bespectacle)  
 left me my memories, i give but one  
 refrain:  
 the science of forgetting is not inscrutable  
 but being forgotten, that is  
 unforgivable.

THE SCIENCE (2018), interactive poetry web

Cornell Tech RIVAA Gallery: <http://www.raylc.org/datamaterial/remix/>



G[AR]MENT (2018), electronics vinyl crinoline dress, 1.2x1.2x0.8m  
Pratt Brooklyn Fashion Tektiles Exhibit: <https://youtu.be/00ycqRVfGQs>



CREATIVE FLOW (2019), boiled fabric electronics performance, 1x0.4x0.2m  
DeConstrukt Redhook NY: <https://vimeo.com/327750846>





DIVIDER (2018), electronic fabric, 0.1x0.3m  
Age of Supersensing Summit: <https://youtu.be/sC3dpQ3w2wU>



INUS (2017), electronics vinyl dress, 1.8x0.3x0.2m

Tokyo MODE New Era Show: <http://www.raylc.org/inusfashion>



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THIRD SKIN (2016), painting fashion performance, 30:10  
Tokyo Golden Egg Kabukicho: <https://youtu.be/E0DuRgCHPAY>