R A Y L C

neuro . tech . art

PROFILE

creative technology and interactive art inspired and supported by multidisciplinary understanding of human behavior.

EXHIBITION / AWARDS

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 Construkt
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

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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

2019 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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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]