

OLIVIA JACKSON

computer programmer and media artist

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OPEN SOURCE SOFTWARE PROJECTS

Hydra. net.art + software. 2018-present

Primary developer. Browser-based platform for live coding visuals, inspired by analog video synthesis.

Ongoing investigation into the aesthetics of distributed networks, feedback, collaboration, and chaos in live performance. <https://hydra.ojack.xyz>

Live Lab. software. CultureHub Art + Technology Center in NYC and Seoul Institute of the Arts in Seoul, Korea.

2015 - present. Primary developer. Open-source, browser-based software for networked performance that uses a peer-to-peer mesh network to share audio, video, and data streams between performers and venues.

PIXELSYNTH. net.art. 2016.

Primary developer. Browser-based synthesizer for creating sound from images and drawings, allowing performers to use visual parameters and illustration to create a live sound composition. Inspired by the ANS synthesizer created by Evgeny Murzin in 1937. <https://ojack.github.io/PIXELSYNTH/>

Maps for getting lost. Net.art, cartography. 2015.

Primary developer. Generative and self-destructive street maps drawn into the browser. Algorithmic exploration of the city as an ever-evolving series of ephemeral connections.

Anti-Eviction Mapping Project, San Francisco, California, USA. 2013 - 2016.

Primary developer. Founding member of independent collective documenting gentrification and displacement in the San Francisco Bay Area, using data visualization and cartography to show the impact of housing policy on local communities.

PERFORMANCES

- 2023 *ZKM CodeLab*, ZKM Zentrum für Kunst und Medien, Karlsruhe, Germany
- 2022 *Rarefacció* listening cycle, hangar.org, Barcelona, Spain
- 2022 *Hydra Sightings*, with marum, Hošek Contemporary, Berlin & Malavoadora, Porto, Portugal
- 2021 *Oscillation Festival*, with Celeste Betancur, Brussels, Belgium (online)
- 2020 *The Living Room Project*, with Ali Santana, Mana Contemporary, Jersey City, USA
- 2019 *Festival Domo Lleno*, with Jose Marulanda, Planetario de Bogotá, Colombia
- 2019 *Tu lengua y la mía*, with Mabe Fratti, Teatro de las Artes CENART, Mexico City, Mexico
- 2019 *KEYS Algorave*, Trauma Bar und Kino, Berlin, Germany
- 2019 *CTM Festival*, Music Maker's Hacklab, Berlin, Germany
- 2019 *Viu Festival*, Live coded audio and visuals, Hangar.org, Barcelona, Spain
- 2019 *Algorave*, live visuals, International Conference on Live Coding, Madrid, Spain
- 2018 *Babycastles X LiveCodeNYC: Algorave Arcade*. Live code performance. *Performance Space New York*. New York City, New York
- 2018 *Algorave RGGTRN*, Plataforma Bogotá, Bogotá, Colombia

SELECTED WORKSHOPS

- 2023 *Sound Days 2023*, Liepaja University Art Research Laboratory (MPLab), Liepaja, Latvia
- 2022 *Live Coding Masterclass*, ZKM Zentrum für Kunst und Medien, Karlsruhe, Germany
- 2022 *Hybrid Interfaces: drawing and code*, Algopolis, Ljudmila hacklab, Ljubljana, Slovenia
- 2021 *Live coding visuals with Hydra*, Liepaja University Art Research Laboratory (MPLab), Latvia (online)
- 2021 *Live coding visuals with Hydra*, Nusasonic Festival, Goethe Institut (online)
- 2021 *DICE: Orbital Entities Volume 3*. Live coding with Olivia Jack, Berlin, Germany
- 2021 *Musicmakers Hacklab co-facilitator*, CTM Festival, Berlin, Germany
- 2019 *Hydra workshop*, Resolution Studies, New Media, Kunsthochschule Kassel
- 2019 *Live coding visuals with Hydra*, Centro de Cultura Digital, Mexico City, Mexico
- 2019 *Hydra workshop*, Viu festival, Barcelona, Spain
- 2018 *Audiovisual creation with software libre*. FLISOL, open-source software festival. Bogotá, Colombia
- 2018 *Live coding: (a)sincronia audiovisual*. Plataforma Bogotá, Bogotá, Colombia
- 2017 *Cyborg dreams: laboratory of human-machine creation*. Plataforma Bogotá, Bogotá, Colombia
- 2017 *Hiperconectadxs: browser as platform for audiovisual creation*. Platóhedro, Medellín, Colombia
- 2017 *Browser as modular synth: live coding distributed and networked visuals*. International Conference on Live Coding, Morelia, Mexico
- 2014 *Workshop: Mapping Repression and Resistance in the Bay Area*. LOL Oakland Makerspace, Oakland, California, USA
- 2014 *Intro to Creative Coding*. Bay Area Video Coalition, San Francisco, California, USA

TEACHING APPOINTMENTS

- 2021 *Seminario permanente de tecnología musical (Permanent seminar of music technology)*, Graduate program in music technology, UNAM National Autonomous University of Mexico
- 2017-2018 *Intermedia-Redes (Networks and Intermedia)*, Department of Visual Art, Pontificia Universidad Javeriana, Bogotá, Colombia

TALKS AND CONFERENCES

- 2023 *New Perspective Lectures, New Media*, Universität der Kunst, Berlin, Germany
- 2023 *Open Source Contributors Conference*, Processing Foundation, University of Denver, USA
- 2022 *The browser as a modular, networked video synthesizer*, Interactive Media Arts, NYU (USA/Berlin)
- 2022 *ITERATIONS: creative coding symposium*, Utrecht, Netherlands (online)
- 2022 *NØ LAB: inclusivity in live coding*, la Gaité Lyrique, Paris, France
- 2022 *Artist talk, ptz = 'talks'*, Art & Technology Studies, School of the Art Institute of Chicago, USA (online)
- 2021 *Keynote panel, International Conference on Live Coding (ICLC)*, Valdivia, Chile (online)
- 2021 *Susurros de la máquina, Ciclo Rosa: Datos y Relatos*, Cinemateca de Bogotá (online)
- 2021 *Artist talk, Browserfest*, the University of Chicago, USA (online)
- 2021 *Artist talk, Institut Zeitgemässe Design Praxis*, Fachhochschule Nordwestschweiz, Basel, Switzerland
- 2020 *Looking at Music: After the Laptop Performance*, The Disappearance of Music, HKW, Berlin, Germany
- 2020 *fubbles - scribble functions*, Hybrid Live Coding Interfaces: performance and craft (online)
- 2019 *Hydra, Live Coding Visuals in the Browser, Algorithmic Art Assembly*, Gray Area, San Francisco, USA
- 2019 *The browser as a modular, networked video synthesizer*, JSConf Hawai'i
- 2019 *Network ghosts: video feedback and algorithmic uncertainty*, CTM Festival, Berlin
- 2014 *Drawing with code: Javascript and analog creativity*, CaliJS, Universidad Javeriana, Cali, Colombia
- 2014 *Maps that Move*. CARTography GeoMixer, San Francisco Design Week, San Francisco, California, USA

RESIDENCIES

- 2022 *on-the-fly Research Residency*, hangar.org, Barcelona, Spain

- 2019 *Semimuticas*, Instituto de Investigaciones en Matemáticas Aplicadas y en Sistemas (IIMAS), UNAM Mexico City, Mexico
- 2018 *Digital Performance Residency*, Favoriten Festival, Dortmund, Germany
- 2017 *Residencia Colaborativa*, Platóhedro, Medellín, Colombia
- 2016 *Choreographic coding lab. CCL #4*. Collaboration with Lisa Parra and Daniel Pinheiro, New York.
- 2016 *Interactivos? '16: Mundos Posibles*, Media Lab Prado, Madrid

EXHIBITIONS

- 2018 *Domóticas*, ARTBO: Bogotá International Art Fair, Bogotá, Colombia.
- 2016 *Queer Porto*, Maus Hábitos, Porto, Portugal
- 2016 *Interactivos?16: Mundos Posibles*. Medialab Prado, Madrid, Spain
- 2016 *Take this Hammer*. Yerba Buena Center for the Arts, San Francisco, California, USA
- 2015 *Click, Drag, Fall Apart*. Refest Art+Tech Festival, La Mama Experimental Theater, New York, USA
- 2015 *Festival de Arte Interdisciplinar Cuerpo Estado*, Estación la Sabana, Bogotá, Colombia

FREELANCE MEDIA DEVELOPMENT

Mourning Stage Simon(e) Jaikiriuna Paetau and Carlos Motta, performed at Haus der Kulturen der Welt. 2022
Built software for live video processing, facial recognition and mask overlays.

Paradise: Return to Aja. Dir. India Sky Davis. National Queer Arts Festival, Brava Theater, San Francisco, USA. 2018. Software and live visuals for theater.

Bogotá: Los Cerros Desde el Aire. Media Installation. Museo de Bogotá. Bogotá, Colombia. 2017.
Visual and auditory cartography of the formation of the city of Bogotá over time, from pangea to the present day. Created generative animations based on cartographic analysis and custom software.

NODOS: cuerpos en expansión, Dance + technology performance. Dir. Edna Orozco. Bogotá, Colombia. 2015.
Exploration of the body as a series of tracings, nodes that expand, contract, split and merge with other bodies. Used infrared sensors and custom software to generate real-time interactive projections.

QUIA: the same other as always, Dance + technology performance. Dir. Edna Orozco. Bogotá, Colombia, 2014 - 2016. Interactive set design and software development for the experimental dance performance QUIA, which has been performed in Colombia, Croatia, and Costa Rica.

EDUCATION

2007 - 2011 Stanford University, Stanford, California, USA
Bachelor of Science in Engineering-Product Design, Minor in Computer Science

PROFESSIONAL EXPERIENCE

- 2020-2022 *Research Assistant*, Research on Complex Systems, Humboldt University, Berlin, Germany
Developed interactive visualizations of scientific research into COVID-19 dynamics in Germany. Created interactive explanations of complex and chaotic systems in biology and physics, published at <https://complexity-explorables.org>
- 2018 - 2020 *Software Developer*, Instituto Distrital de las Artes, Bogotá, Colombia

- Software developer for IDARTES (District Arts Institute) of the city of Bogotá, part of the working group on Art, Science, and Technology.
- 2017 - 2018 **Professor**, Pontificia Javeriana University, Bogotá, Colombia.
Adjunct professor of computer programming and new media in the visual arts department.
- 2015 - 2017 **Programming Instructor**, Pixie Minds, Bogotá, Colombia
Taught video game design and development to young people ages 5 to 15 in public libraries throughout Bogotá. Introduced programming concepts through gameplay and storytelling. Created and documented lesson plans for diverse groups of students.
- 2011 - 2014 **Media Exhibit Developer**, Oakland Museum of California, Oakland, California, USA
Data visualization and development of interactive exhibits for the renovation of Natural Sciences Gallery at the Oakland Museum of California. Designed and developed educational interfaces using JavaScript, Processing, and Flash.
- 2011 **Data Visualization Specialist**, Spatial History Lab, Stanford University, California, USA
Prototyped applications of data visualization in humanities and social sciences.
- 2010 **Programming Intern**, Alea Technologies, Teltow, Germany
Created an eye-gesture-based writing application in C# for computer users with limited speech and motor control.
- 2009 - 2010 **Flash Developer**, Biomechanical Engineering Department, Stanford University, CA
Designed and developed flash-based games for learning about electrical activity and blood flow through the heart.

PUBLICATIONS

Schlosser, F., Maier, B. F., Jack, O., Hinrichs, D., Zachariae, A., & Brockmann, D. (2020). COVID-19 lockdown induces disease-mitigating structural changes in mobility networks. *Proceedings of the National Academy of Sciences*, 117(52), 32883-32890.

Jack, O. Hydra: Live Coding Networked Visuals. (2019, January). In *Proceedings of the Fourth International Conference on Live Coding* (pp. 353-354).

Street, Z., Albornoz, A., Bell, R., John, G., Jack, O., Knotts, S., ... & Velasco, G. R. (2019, January). Towards Improving Collaboration Between Visualists and Musicians at Algoraves. In *Proceedings of the International Conference on Livecoding*, Medialab Prado, Madrid, Spain (pp. 16-18).