Christian Swinehart

CURRICULUM VITAE

CONTACT

drafting@samizdat.co

SEE ALSO

OPEN SOURCE LIBRARIES

PlotDevice ‹*plotdevice.io*›
Arbor.js ‹*arborjs.org*›
Corduroy ‹*samizdat.co/corduroy*›
Xyzzy ‹*xyzzy.io*›

SCIENTIFIC PUBLICATIONS

articles and *dissertation*

CODE REPOSITORY

github.com/samizdatco

PORTFOLIO

samizdat.co

EDUCATION

RHODE ISLAND SCHOOL OF DESIGN (2008)

M.F.A. | Graphic Design
Thesis work centered on information graphics, design systems, and typography. Received the school's *Award of Excellence* in my final year and an intramural research grant in 2006.

BRANDEIS UNIVERSITY (2005)

Ph.D. | Computational Neuroscience
Studied under Laurence F. Abbott with research published in the journals *Network, Neural Computation,* and *Neurocomputing* and presented at multiple *Society for Neuroscience* and *Cosyne* conferences.

DICKINSON COLLEGE (1998)

B.S. | Cognitive Science
Graduated with a self-developed major whose curriculum I designed by combining psychology, neurobiology, computer science, and philosophy coursework and a final independent project.

TEACHING

VISITING ASSISTANT PROFESSOR (2019–)

Pratt Institute | Brooklyn, N.Y.
Currently teaching *Data Integrity* twice a year as a senior elective to students in the Communications Design department.

PART-TIME FACULTY (2017–)

Parsons | New York, N.Y.
Now teaching my third year of *Data Visualization & Information Aesthetics* in the Fall and supervising masters thesis projects in *Major Studio II* in the Spring for the M.S. in Data Visualization program.

ADJUNCT PROFESSOR (2015–2017)

Rhode Island School of Design | Providence, R.I.
Created and taught an elective in the Graphic Design department called *Lies, Damned Lies, and Data Visualization* for three years and co-taught a semester of *Graduate Studio I*.

GUEST CRITIC

Columbia University (2018, 2019)
Parsons M.S. in Data Visualization (2017)
School of Visual Arts (2014, 2015)

GUEST LECTURER

Led a group of RISD graduate students through the 2018 Ramon y Cajal exhibition at NYU's Grey Gallery and lectured on his work as a scientist, photographer, and early practitioner of information graphics.

PROFESSIONAL EXPERIENCE

DESIGN PARTNER (2010–)
Office of Unspecified Services | Brooklyn, N.Y.
Recent clients include The New York Times, Citibank, Yale, Ennead, Diller Scofidio + Renfro, Allied Works, and Mitch Epstein.

VISUALIZATION DEVELOPER (2011–2013)
Bloomberg Visual Data | New York, N.Y.
Data visualization, user interface design, and development of interactive products covering politics, society, and the economy.

INTERACTIVE DESIGNER (2007–2010)
Pentagram | New York, N.Y.
User experience and development on Lisa Strausfeld's National Design Award winning team. Clients included Gallup, Lincoln Center, OLPC, Litl, and the Museum of Arts and Design.

CLIENT WORK

NEW BAGEHOT PROJECT ‹*newbagehot.yale.edu*›

Directed by former treasury secretary Timothy Geithner

Yale's Program on Financial Stability was created in the aftermath of 2008 and engages in research that leaves us better prepared to respond to (or ideally prevent) future economic meltdowns. This project aims to exhaustively catalog the history of financial crises and evaluate the effectiveness of the various attempts at ameliorating them.

LAWRENCE BERKELEY NATIONAL LABORATORY (2017)

Published in the April 2018 issue of the journal Computer

Designed figures for an IEEE publication written by my longtime scientific collaborator, Dr. Kristofer Bouchard.

CITIBANK ACCOUNT DASHBOARD (2015)

In conjunction with a rebranding project at Critical Mass

Developed visualizations as part of a redesign of the account interface shown to checking and credit card customers on the web and mobile apps. My diagrams were used to show trends across transaction histories and helped monitor balances, expenses, and savings goals.

BLOOMBERG BILLIONAIRES INDEX (2014)

Selected for The Best American Infographics 2014 and won Grand Prize in the 2013 Information is Beautiful Awards

The Billionaires Index visualized the wealth of the world's 500 richest people—information previously only available through the Bloomberg Terminal. It was designed by the Visual Data team where I contributed the front-end development, interaction design, and data API.

DILLER SCOFIDIO + RENFRO WEBSITE (2008)

Winner at Type Directors Club 55 for Best Website and included in of Lisa Strausfeld's National Design Award

An early instance of 3D interaction design on the web, this portfolio site presented the work of the artists and architects at this groundbreaking firm within a VR-like, spatially organized environment.

RESEARCH

A RADICALLY CONDENSED HISTORY OF SUBSIDIZED TIME

My current research uses visualization methods to make sense of chronological nonlinearities within literary narratives. The primary dataset is the text and structure of David Foster Wallace's novel *Infinite Jest*. Its length, enormous number of characters, and flashback-heavy plotting make it an ideal subject for investigation.

ONE BOOK, MANY READINGS ‹*samizdat.co/cyoa*›

Featured in étapes magazine, Slate, Fast Company, Gizmodo, Brain Pickings, & Atlas Obscura

A visual analysis of the *Choose Your Own Adventure* books of my youth. The project examines the structure of choices in the books and how it changed over the course of the series. Animations allow you to see patterns among the many unique paths through each of the books.

PLOT DEVICE ‹*plotdevice.io*›

Used in all of my classes as a pedogogical tool and for production of print-focused visualizations

PlotDevice is a Macintosh application used for computational graphic design. It provides an interactive Python environment where you can create two-dimensional graphics and output them in a variety of vector, bitmap, and animation formats. It is meant both as a sketch environment for exploring generative design and as a general purpose graphics library for use in external Python programs.

ARBOR.JS ‹*arborjs.org*›

Over 3,000 stars and forks on github.com

In a number of projects I've made use of force-directed layout routines for constructing network diagrams. Arbor is a javascript library that abstracts away the physics simulation and provides hooks for rendering the resulting graphs in the developer's choice of canvas, SVG, or HTML.

BDBGS! ‹*samizdat.co/digital/bdbgs*›

Reprinted in You are Here N.Y.C. (2016)

After scraping data from the Bedbug Registry and New York's 311 system, I created an interactive map to view incidents and animate the sequence over time. Clicking the play button begins the march from 2007's relatively quiet scene to the explosion of reports in 2010 & '11.

ECHOLALIA ‹*samizdat.co/digital/echolalia*›

Bird syntax visualizations featured in Your Idea Starts Here (2016)

In collaboration with Michael Brainard's lab at U.C.S.F. I visualized statistical patterns in Zebra Finch vocalization data as a way to unravel the 'grammar' of birdsong and the neural circuitry underlying it.

Reviewed on the Stanford Library Digital Humanities blog

25 citations listed on Google Scholar

Designed & typeset using LaTeX

Posters from 2002, 2003, & 2004

PUBLICATIONS

PATTERN RECOGNITION (2008)
MFA thesis | Rhode Island School of Design
advisor: Matthew Monk
program head: Bethany Johns

DIMENSIONAL REDUCTION FOR REWARD-BASED LEARNING (2006)
Network: Computation in Neural Systems 17(3): 235–252

RESPONSE MODULATION: A MECHANISM FOR THE GUIDANCE OF LEARNING (2005)
Ph. D. dissertation | Brandeis University
advisor: Laurence F. Abbott
program head: Eve Marder

SUPERVISED LEARNING THROUGH NEURONAL RESPONSE MODULATION (2005)
Neural Computation 17: 609–631

CONTROL OF NETWORK ACTIVITY THROUGH NEURONAL RESPONSE MODULATION (2004)
Neurocomputing 58–60: 327–335

CONFERENCE PRESENTATIONS

SOCIETY FOR NEUROSCIENCE (2002–2004)
Orlando, New Orleans, & San Diego

COSYNE: COMPUTATIONAL AND SYSTEMS NEUROSCIENCE (2004)
Cold Spring Harbor Laboratory, Long Island

CNS: ANNUAL COMPUTATIONAL NEUROSCIENCES MEETING (2003)
Alicante, Spain