

Jeffrey Ventrella

Age 56

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www.ventrella.com



Massachusetts Institute of Technology (The Media Lab)	MS	Media Arts and Sciences	1994
Syracuse University	MFA	Computer Graphics/Video	1987
Virginia Commonwealth University	BFA	Art Education/Art History	1984

http://www.wiggleplanet.com	My LLC (self-animated characters for augmented reality)
https://ventrellathing.wordpress.com/	My blog
http://www.virtualbodyLanguage.com	A book about nonverbal expression and avatars
http://www.brainfillingcurves.com/	A visual math book
http://www.swimbots.com/	An artificial life game
http://www.cloctal.com	Visualizing fractal time
http://www.melodyball.com/	Algorithmic Melody Generation
http://www.avatarpuppeteering.com/	Direct-manipulation (Second Life)
http://www.divisorplot.com/	Visual treatment of composite number theory
http://www.jjventrella.com	About me

[Wiggle Planet, LLC](#), Petaluma, CA 10/12 – present

Founder

Developing mobile experiences featuring self-animated characters.
Raised angel seed investments and Kickstarter funds in 2014.

[Virtuocity VR, Inc.](#) London, UK 8/16 – 12/16

Developer/Designer (Contract)

R&D in a virtual reality application using the Samsung GearVR and Unity

[Pillantas, Inc.](#) San Francisco, CA 6/16 – 8/16

Developer (Contract)

R&D using the Microsoft HoloLens;
developed prototypes in Unity for a highly-innovative augmented reality interface

[Binary Simplex](#) Washington, DC 1/15 – 12/15

Developer (Contract)

Implementing cross-platform (iOS and Windows) rendering tools for patented optimized 3D mesh generation based on DICOM files.

[For Goodnes Sake](#) San Francisco, CA 10/14 – 1/15

Designer/Developer (Contract)

Design and implementation of javascript-based simulation components for female-oriented sexuality education app.

<p><u>High Fidelity</u> San Francisco, CA Developer (Contract) Helped build-out core avatar systems, user interactions, particle systems, camera behaviors, and other virtual world features</p>	4/13 – 8/13
<p><u>Visual Music Systems</u>, Boston, MA Principle Developer Developed high-performance, realtime computer animation for a performative artform incorporating immersive displays and gestural input. Particle systems, 3D math/physics, and parameter-based control</p>	6/11 – 9/12
<p><u>The Internet Archive</u> San Francisco, CA Designer/Engineer (Contract) Worked closely with internet visionary Ted Nelson on implementation of ZigZag for the Open Library. Project management, JavaScript/HTML5/CSS development</p>	10/10 – 11/10
<p><u>Emota.net</u> Menlo Park, CA Designer/Engineer (Contract) NSF-funded start-up. Consulted on design; development: interactions and interfaces for social connectedness. Developed JavaScript code for web and iPad</p>	7/09 – 9/10
<p><u>School of Interactive Arts and Technology</u>, SFU, Vancouver, BC Research Scholar: nonverbal communication in virtual worlds. Taught Advanced Game Design class to 4th-year students. Wrote the book: <i>Virtual Body Language</i>: www.virtualbodylanguage.com</p>	9/09 – 8/10
<p><u>The Internet Archive</u> San Francisco, CA Developer/Designer: built home page for NASAIImages.org; designed and implemented the 'create account' page and other pages. Helped design the Open Library Bookreader using JavaScript/CSS.</p>	3/08 – 7/09
<p><u>Centre for Digital Media</u> Vancouver, BC Faculty: Developed curriculum and taught Building Virtual Worlds, advised students on industry-funded projects</p>	8/08 – 12/08
<p><u>Millions Of Us</u> Sausalito, CA Consultant: Developed avatar-customization tool, general consulting</p>	1/08 – 2/08
<p><u>SheZoom</u> New York, NY Animator: designed and implemented Shemoticons in Flash</p>	12/07 – 1/08
<p><u>Linden Lab (Second Life)</u> San Francisco, CA Senior Developer: Developed software and designs for Second Life, invented Flexi Prims, FollowCam. vehicle physics, camera behavior, avatar customization, and user interfaces</p>	1/05 – 11/07
<p><u>Adobe Systems</u> San Jose, CA Programmer: Worked with the Acrobat 3D team (originally Adobe Atmosphere), developed JavaScript for direct manipulation, modeling, and interactive behavior of 3D content</p>	2/04 – 7/05

<p><u>There, Inc</u> Menlo Park, CA Co-Founder and Principle Inventor of <u>There.com</u> Developed prototype with Will Harvey April 1997 to April 1998; co-founded company with Will on April 1998. Invention of technologies and designs for avatars, vehicle physics and navigation, camera behavior, sound design, animal behaviors, and real-time voice-activated speech animation. Principal author on first patent granted to the company.</p>	4/97 – 1/04
<p><u>Rocket Science Games, Inc.</u> San Francisco, CA Designer/Engineer: Designed and prototyped software games. Worked with author Michael Crichton on a game prototype. Designed Darwin Pond</p>	7/95 – 4/97
<p><u>ABSOLUT Vodka</u> (via TBWA/Chiat Day NY, NY) Artist/Programmer: Developed code to generate stylized genetic algorithm-based variations of the Absolut Vodka Bottle using interactive evolution. Published online as promotion for the "Absolut Kelly" web site, Consulted with Kevin Kelly on the site</p>	2/96 – 5/96
<p>Protozoa San Francisco, CA Software Engineer: Worked with Brad deGraf. Developed interactive tool to generate 3D tree models for a computer game.</p>	3/95 – 3/95
<p>Tufts University, <u>Experimental College</u>, Medford, MA Instructor: Designed and taught course: "Populating Virtual Reality". (Artificial Life: cultural implications, technical aspects).</p>	1/95 – 3/95
<p><u>Papyrus Design Group</u>, Somerville, MA Designer: Developed script and consulted on animated characters for proposed CD-ROM-based interactive comedy game.</p>	12/94 – 3/95
<p><u>Do While</u> Studio, Boston, MA Artist: Developed interactive animations; worked with artist Jen Hall</p>	9/94 – 4/95
<p><u>Cinergi Productions</u> Lenox. MA Artist/Programmer: Feature Film Special Effects Animator, (Sylvester Stallone Film, Judge Dredd) Programmed custom animation effects on SGI IRIS; collaborated artists.</p>	7/94 – 8/94
<p><u>Visible Language Workshop, MIT Media Lab</u>, Cambridge, MA Research Assistant: multimedia interfaces, AI, information design, and animation.</p>	9/92 – 3/94
<p>University of California, San Diego, <u>Visual Arts Dept.</u> San Diego, CA Instructor: Worked under Harold Cohen, developed curricula and taught courses in Graphics Programming, 3D CAD, and C Language</p>	1/92 – 6/92
<p>Syracuse University Computer Graphics Specialist, Created Scientific Data Visualizations for supercomputer research. Taught workshops; Produced videotapes; Acquired video equipment, Attended Data Visualization Workshops at NCSA.</p>	7/87 – 12/91

Syracuse University Department of Industrial Design, Syracuse, NY

9/87 – 12/91

September 1987 – December 1991

Instructor: Taught Computer Aided Design for Industrial Design; Used SDRG-IDEAS software running on a VAX mainframe. Developed curriculum and co-authored graphics library for programming

Travel: Melbourne, Mumbai, London, Seoul, Banff, Barcelona, Kyoto, Tuscany, Bilbao, Paris, Geneva, Dublin

Technical Skills

Software Languages: C++, C#, JavaScript, Objective-C, Java, HTML5, Pascal

Platforms: XCode, Unity, iOS, OpenGL, Windows (Win32), several dev tools

Other: Photoshop, Flash, user experience design, cel and character animation, audio design, music theory,

Lectures/Presentations

Santa Barbara, California

Presented [keynote](#) at the [Immersive Learning conference](#) 6/16

Los Angeles, California

Presented on a panel at [Digital Hollywood](#) 10/15

Barcelona, Spain

Presented keynote presentation at [VISIGRAPP](#) conference 2/13

Pittsburgh, PA

Presented Virtual Body Language at Carnegie-Mellon University's ETC 10/11

Vancouver, BC, Canada

Gave keynote presentation at [International Symposium on Computational Aesthetics in Graphics, Visualization, and Imaging](#): a SIGGRAPH co-located conference. 8/11

Menlo Park, California

Gave a presentation at the [Talks on Computing Systems](#) series at Carnegie-Mellon University, Silicon Valley, NASA Ames Campus 5/11

Laval, France

Gave the first keynote at the [Laval Virtual](#) conference 4/11

Los Angeles, California *Virtual Body Language*

Presented avatar expression at an invitation-only workshop at [ICT, USC](#) 2/11

Banff, Alberta, Canada, *Self-Portraits in Mandelbrot Genetics*

[Smart Graphics](#). Presented mathematically-generated artworks 6/10

Toronto, Ontario, Canada, *The Gestural Turing Test*

[AAMAS](#) Presented motion-capture experiment in nonverbal communication and believability (details available at <http://gesturalturingtest.com/>) 5/10

Melbourne, Australia, Workshop Lecturer ACAL - Presented ecological simulation using planetary toy physics, emphasizing Open, collaborative development	12/09
Palm Springs, California, Keynote Speaker. HPC Horizons. How genetics, physics, and communication can be represented for efficient traversal over the internet for virtual worlds. Other Keynote speakers were Craig Venter and Jaron Lanier.	3/08
Boston, Massachusetts Prime Numbers are the Holes Behind Complex Composite Patterns (The Divisor Plot) at the 7th International Conference on Complex Systems	10/07
Vancouver, BC, Canada <i>Online Body Language - Expressivity and Identity in Avatars and Autonomous Creatures</i> School of Interactive Art and Technology (SFU) Research Colloquium	9/07
Boston, Massachusetts <i>Physical Avatar – a new technology for Second Life</i> SIGGRAPH conference Tech Talk	8/06
Bloomington, Indiana A Particle Swarm Selects for Evolution of Gliders in Non-uniform 2D Cellular Automata - paper presented at Alife X conference	6/06
Pittsburg, Kansas presented overview of work at Pittsburg State University	4/05
Bilbao, Spain conducted workshop at the Universidad del Pais Vasco on <i>techniques for using mathematics to generate portraits. Presented interactive and print work at La 17 Exposición de Audiovisuale.</i>	12/04
Bilbao, Spain Sharing the Virtual Ecosystem (the <i>Interactive Web of Virtual Life and Avatars</i>) Art and Technology Symposium, Universidad del Pais Vasco	12/03
Stanford University, Palo Alto, CA Avatar-Centric Communication in There , co-lectured with Dr. Chuck Clanton , at the Human-Computer Interaction Seminar	4/03
Dundee, Scotland <i>Artful Biology: Simulated Creatures for Software Entertainment</i> , presented at International Centre for Computer Games and Virtual Entertainment	2/01
Paris, France Avatar Physics and Genetics , presented at Virtual Worlds, 2000	7/00
San Jose, CA presented artificial life research at Digital Biota conference	11/99
Syracuse, NY Presented overview of artistic development Syracuse University Visual and Performing Arts Dept.	2/99
Paris, France Designing Emergence in Animated Artificial Life Worlds presented at Virtual Worlds 98	7/98
Los Angeles, CA Attractiveness vs. Efficiency (<i>How Mate Preference Affects Locomotion in the Evolution of Artificial Swimming Organisms</i>) - presented at Artificial Life VI	6/98
Brighton, England Darwin Pond - Demonstration presented at the European Conference on Artificial Life	7/97

Montreal, Canada <i>Eukaryotic Virtual Reality (The Emergent Art of Artificial Life)</i> - presented in a Panel at ISEA95 conference	9/95
Geneva, Switzerland <i>Disney Meets Darwin</i> - Paper presented at Computer Animation, '95	4/95
Cambridge, MA <i>Explorations in the Emergence of Morphology and Locomotion Behavior in Animated Characters</i> - Paper presented at Artificial Life IV , MIT	7/94
San Diego, CA Artificial Life and a Computer Art of Emergence - slide and video lecture: Center for Research and Computing in the Arts, UCSD	5/92
New London, CT <i>A Genetic Approach to Computer Art</i> - Visiting Artist, lectured and conducted workshops on mathematical images, Center for Arts and Technology, Connecticut College	10/91
San Francisco, CA Factors Inducing Periodic Breathing in Humans (a case study in scientific data visualization), co-lectured with Dr. Wayne Fordyce, at Visualization '90	10/90
Halifax, Nova Scotia <i>Computer Graphics for the Human</i> - a half-day tutorial, presented at Graphics Interface/Vision Interface	5/90
Williamsburg, VA A Computergraphical Model of Multi-generational Family Systems – Presented (with Jim Amodio and Tom Schur) at Advanced Computing for the Social Sciences	5/90
New London, CT <i>Using Mathematics to Arrive at Imagery</i> - Presented at the Arts and Technology Symposium II Connecticut College	2/89
Syracuse, NY Television Interview (with computer animations) on 6:00pm news story on Chaos: interviewer, Scott Atkinson, News Center Five	7/88
Syracuse, NY Fractal Geometry in Art - The Mandelbrot Colloquium, with four other speakers <i>including Dr. Mandelbrot</i>	11/86

Published Works

Various articles published on Nature, Brain, Technology: <https://ventrellathing.wordpress.com/>

Brainfilling Curves – a Fractal Bestiary

A color book about a system for discovering and rendering plane-filling fractal curves.

[Book web site](#)

From Ragdoll Physics to Expressive Avatars

Paper published in the International Journal of Design and Innovation Research: 2011

[see abstract](#)

Virtual Body Language

Currently available at www.virtualbodylanguage.com - published by [ETC Press](#) in 2011

Self-Portraits in Mandelbrot Genetics – Springer: conference proceedings of [Smart Graphics](#), 2010

The Gestural Turing Test - published in the conference proceedings of [AAMAS](#), 2010

Gliders Dynamics on the Sphere: Exploring Cellular Automata on Geodesic Grids. to be published in the Journal of Cellular Automata (Editor Andy Adamatzky)
<http://www.ventrella.com/Alife/Cells/GlidersOnSpheres.pdf>

A Spherical XOR Gate Implemented in the Game of Life to be published in the book: Game of Life Cellular Automata, Editor Andy Adamatzky, Springer.

Evolving Structure in Liquid Music The Art of Artificial Evolution, Natural Computing Series, Springer-Verlag, Editors: Romero, J., and Penousal, M. November, 2007
<http://www.springer.com/west/home/computer/foundations?SGWID=4-156-22-173745009-0>

Evolving The Mandelbrot Set to Imitate Figurative Art Innovations in Evolutionary Design, Natural Computing Series, Springer-Verlag, Editors: Hingston, P., Barone. L., and Michalewicz, Z. Berlin, 2007
<http://www.ventrella.com/Tweaks/Portraits/EvolvingMandelbrot.pdf>

Gliders and Riders - A Particle Swarm Selects for Coherent Space-time Structures in Evolving Cellular Automata – a chapter in Stigmergic Optimization, from the Studies in Computational Intelligence Series. Vol 21, Springer-Verlag. eds. Ajith, Grosan, and Ramos. page 131, 2006
<http://www.springer.com/east/home/computer?SGWID=5-146-22-173661230-0>

GenePool – Exploring the Interaction Between Natural Selection and Sexual Selection –Chapter 4 in Artificial Life Models in Software. ed. Andrew Adamatzky and Maciej Komosinski. Springer, 2005. Page 81
<http://www.springerlink.com/content/tv10101372574541/>

Animated Artificial Life, Chapter 3 in Virtual Worlds (Synthetic Universes, Digital Life, and Complexity) (ed. Heudin, J.C.) Perseus Books, 1999 pages 67-94
http://www.ventrella.com/Alife/Animated/animated_0.html

A Computergraphical Model of Multi-Generational Family Systems, chief author and editor (with James H. Amodio, MPS, and Thomas J. Schur, MSW), in Social Science Computer Review, Spring 1991 Volume 9 Number 1, pages 13-26
<http://ssc.sagepub.com/cgi/content/abstract/9/1/13>

A Particle Swarm Selects for Evolution of Gliders in Non-uniform 2D Cellular Automata published in Alife X conference proceedings, MIT Press, 2006
<http://www.ventrella.com/Alife/Cells/GlidersAndRiders/SwarmGliders.pdf>

Avatar Physics and Genetics, published in Virtual Worlds, 2000 (ed. Heudin, J.C.), Springer-Verlag Berlin/Heidelberg
<http://portal.acm.org/citation.cfm?id=647690.731011&coll=GUIDE&dl=GUIDE&CFID=15151515&CFTOKEN=6184618>

Interview quotes in the article "**Evol-artists - a New Breed Entirely**", in EvoNews newsletter. Issue 11, Summer, 1999. (<http://www.dcs.napier.ac.uk/evonet/>)
http://evonet.lri.fr/evoweb/news_events/news_features/article.php?id=40

Designing Emergence in Animated Artificial Life Worlds, Virtual Worlds, 98 (ed. Heudin, J.C.) 1998, Springer-Verlag pages 143-155 <http://portal.acm.org/citation.cfm?id=733452>

Attractiveness vs. Efficiency: (How Mate Preference Affects Locomotion in the Evolution of Artificial Swimming Organisms), Artificial Life VI, 1998, MIT Press
<http://portal.acm.org/citation.cfm?id=286160&dl=&coll=&CFID=15151515&CFTOKEN=6184618>

Sexual Swimmers: Emergent Morphology and Locomotion Without a Fitness Function, From Animals to Animats, (page 484) 1996, MIT Press http://www.ventrella.com/Alife/Sexual/sexual_0.html

[Disney Meets Darwin: The Evolution of Funny Animated Figures](#), Computer Animation '95 Proceedings - Geneva Switzerland <http://portal.acm.org/citation.cfm?id=791214.791452>

Explorations in the Emergence of Morphology and Locomotion Behavior in Animated Characters, Artificial Life IV proceedings, MIT Press, 1994

Other Published Materials:

Blog Interview by Andrea Romeo:

<http://brain2brain.ning.com/profiles/blogs/il-medium-del-futuro-lavata> June, 2009

Write-up on artificial life research with color illustration in **Morph's Outpost**: "ALIFE IV, or, The Bots are Coming", by Marc P. Seybold, page 18, Nov. 94 issue.

Write-up on Air Traffic Control Visualization Prototype: Enhancing Air Traffic Control Information, by David L. Chandler, in the [MIT Technology Review](#), pages 10-11 8/94

Co-designed cover of **IBM Systems Journal** ([vol. 33, No 2 1994](#)) with J.F. Musgrave, image depicts a family of images I designed. 6/94

Created five illustrations for book: [The Children's Machine \(Rethinking School in the Age of the Computer\)](#), by Seymour Papert, 6/93

Two images published in the large color-illustration book: **Digitale Visionen**, IBM Germany, by Dr. [Herbert Franke](#), 1989

write-up on computer art, with two color illustrations, in the article, Die Wunderwelt Der Gebrochenen Dimension by Susanne Pach, in Video activ, April/May, 1989, Germany, 5/89

Creatures du Plan Complexe, (French translation of IRIS Universe article (below), with color illustrations, in Tech Images, January issue: Paris France, 1/89

Creatures of the Complex Plane (with six color illustrations), published in IRIS Universe, summer '88 issue, Silicon Graphics, Inc. 8/88