

Jeffrey Ventrella

Jeffrey@Ventrella.com

www.ventrella.com

Education

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

Professional Experience

Research Scholar, [SIAT](#), Simon Fraser University, Vancouver, BC

September 2009 - present

Working on a book project and researching future nonverbal communication technologies

Consultant, [Emota.net](#), Menlo Park, CA

July, August 2009

Developed JavaScript-based interfaces for social and emotional connectedness, focusing on the aging population.

Engineer/Designer, [The Internet Archive](#), San Francisco, CA

March, 2008 to June, 2009 (except for 4 months while teaching in Vancouver)

Developed home page for [NASAImages.org](#); general user-interaction design consultation

Faculty, Centre for Digital Media, Vancouver, BC

[Masters of Digital Media](#), (August – December, 2008)

Developed curriculum, and taught [Building Virtual Worlds](#); consulted on industry projects

Consultant, [Millions Of Us](#), Sausalito, CA (January, February, 2008)

Developed avatar-customization tools

Animator/Designer, [SheZoom](#), New York, NY (December, 2007 – January, 2008)

Invented and implemented [Shemoticons](#) in Flash

Senior Developer, [Linden Lab](#) (makers of [Second Life](#)), San Francisco, CA

January 2005 – November, 2007

Invention, design, and engineering. Began as contractor, switched to employee in late summer '05. Design and development of a variety of new virtual world technologies for the Second Life platform, including Flexies and [FollowCam](#). Emphasized parametric basis for user-customization. Physics, camera behavior, [avatar](#) and [animal](#) behavior/physics/customization, and general user-interaction.

Consultant, [Adobe Systems, Inc.](#), San Jose, CA

February 2004 – July, 2005

Worked with the [Acrobat 3D](#) Group on design of next version of the Authoring Tool; Developed JavaScript for direct manipulation, modeling, and interactive behavior of 3D content. Developed

JavaScript APIs for 3D Annotations in PDF documents, emphasizing intuitive UI, context-based camera behavior, and analysis of multi-mesh u3d models.

Co-Founder and Principle Inventor, [There, Inc.](#) Menlo Park, CA

April 1997 – January 2004

Developed software prototype with [Will Harvey](#) from April 1997 to April 1998; co-founded company with Will on April 1998. My job included many responsibilities, including invention of technologies and designs for avatars ([Avatar-Centric Communication](#)), vehicle physics and navigation, camera behavior, sound design, animal behaviors, and real-time voice-activated avatar speech animation. Principal author on the first [U.S. patent](#) granted to the company in 2003.

Designer and Software Engineer; [Rocket Science Games, Inc.](#), San Francisco, CA

July 1995 – April 1997

Designed and prototyped software games. Designed World Builders for product development; Worked on [Rocket Jockey](#), [Zobots](#), [Ganymede](#), and [Darwin Pond](#). Worked with author [Michael Crichton](#) on an immersive rain forest-based game prototype. Designed [Darwin Pond](#), including significant software engineering contribution.

Software Artist, [ABSOLUT](#) Vodka (via [TBWA/Chiat Day](#) (292 Madison Ave, NY, NY 10017)

February 1996 – May 1996

Developed interactive imaging software which generates stylized abstract art based on variations of the classic [Absolut Vodka Bottle](#) using interactive evolution (web site now defunct). Published online as a promotional accompaniment to the "Absolut Kelly" web site – based on the work of executive editor of WIRED, [Kevin Kelly](#). Consulted with Kelly on early designs.

3D Interactive Animation Tool Developer, [Protozoa, Inc.](#) San Francisco, CA

March 1995 – May 1995

Worked under [Brad deGraf](#). Developed an interactive Tool and designed 3D tree models for the computer game, [Squeezils](#). Designers used this tool to create and tune many varieties of tree models for optimal gameplay and aesthetics.

Instructor, Tufts University, [Experimental College](#), Medford, MA

January 1995 – May 1995

"Populating Virtual Reality". Designed and taught curriculum on Artificial Life, basic concepts, cultural implications, and technical aspects. Undergraduate students. This course was approved by a committee including [Daniel Dennett](#)

Consultant/Scriptwriter, [Papyrus Design Group](#), Somerville, MA

December 1994 – May 1995

Developed script and consulted on animated characters for proposed CD-ROM-based interactive comedy game.

Artist, [Do While](#) Studio, Boston, MA

September 1994 – April 1995

Developed interactive animations in software, worked with artist Jen Hall

Feature Film Special Effects Animator, (Stallone Film, [Judge Dredd](#))

Cinergi Productions, Lenox. MA

July 1994 – August 1994

Programmed custom animation effects on SGI IRIS; collaborated with Softimage artists.

Research Assistant, The [Visible Language Workshop](#), MIT Media Lab, Cambridge, MA

September 1992 – May 1994

Research in multimedia interfaces, AI, information design, and animation.

Visiting Professor, [Visual Arts Dept.](#), University of California, San Diego, CA

January 1992 – June 1992

Worked under [Harold Cohen](#), developed curricula and taught courses in Graphics Programming, 3D CAD, and C Language

Computer Graphics Specialist, Syracuse University, Research Computing Services, Syracuse, NY

July 1987 – December 1991

Worked in the Advanced Graphics Research Lab, Consulted in Scientific Data Visualization; Animation software developed for research and instruction; Taught computer graphics workshops; Produced videotapes for researchers and faculty; Evaluation and acquisition of video equipment; Member of ACM SIGGRAPH. Attended Data Visualization Workshops at the [NCSA](#).

Faculty, [Syracuse University Department of Industrial Design](#), Syracuse, NY

September 1987 – December 1991

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

[King's Dominion](#) Theme Park, Northern Virginia

Summers 83 and 84

Artist (pastel portrait, pen-and-ink cartoonist, airbrush T-shirt painter, and fingernail designs)

[High Rocks Summer Camp](#) and [Arrowhead](#) Summer Camp, Western North Carolina

Summers 82 and 83

Camp counselor. crafts, hiking, canoeing...

Lectures/Presentations

Melbourne, Australia, *Workshop Lecturer* (upcoming)

[ACAL](#) - Presenting ecological simulation using planetary 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 <i>A Particle Swarm Selects for Evolution of Gliders in Non-uniform 2D Cellular Automata</i> - 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 Audiovisual.</i>	12/04
Bilbao, Spain <i>Sharing the Virtual Ecosystem (the Interactive Web of Virtual Life and Avatars)</i> Art and Technology Symposium, Universidad del Pais Vasco	12/03
Stanford University, Palo Alto, CA <i>Avatar-Centric Communication in There</i> , 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 <i>Avatar Physics and Genetics</i> , presented at Virtual Worlds, 2000 Conference	7/00
San Jose, CA presented alife 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 <i>Designing Emergence in Animated Artificial Life Worlds</i> presented at Virtual Worlds 98	7/98
Los Angeles, CA <i>Attractiveness vs. Efficiency (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 User (Interactive Concepts and Techniques as Applied to Computer Art)</i> - 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 including Dr. Mandelbrot	11/86

Published Works

Book Chapters:

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>

Papers:

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-lavatar>

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 aktiv, 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

Write-up with color illustration, in a review of the SIGGRAPH '88 Art Show, "Displays on Display", IEEE Computer Graphics and Applications, 9/88 issue, by Patric D. Prince. 9/88

The Shapes, and Things to Come (A Critical Look at Computer-Generated Characters), published in Animato! magazine, 2/87