

BILL TOMLINSON

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EDUCATION:

- 2002 Ph.D., Media Arts & Sciences
Massachusetts Institute of Technology, Cambridge, MA
Dissertation: "Synthetic Social Relationships for Computational Entities"
Advisor: Bruce Blumberg
Committee: Cynthia Breazeal, Rosalind Picard, Richard Wrangham
- 1999 S.M., Media Arts & Sciences
Massachusetts Institute of Technology, Cambridge, MA
Thesis: "Interactivity and Emotion through Cinematography"
Advisor: Bruce Blumberg
Committee: Glorianna Davenport, Tom Porter
- 1996 M.F.A., Experimental Animation, School of Film/Video
California Institute of the Arts, Valencia, CA
Thesis Film: "Shaft of Light"
- 1994 A.B., *cum laude*, Biology Concentration
Harvard College, Cambridge, MA

PROFESSIONAL EXPERIENCE:

- 2002-present Massachusetts Institute of Technology, Cambridge, MA
Robotic Life Group, The Media Laboratory
Creative Consultant. Animating and sculpting for installations at SIGGRAPH 2002 and the Smithsonian National Design Triennial.
- 1997-2002 Massachusetts Institute of Technology, Cambridge, MA
Synthetic Characters Group, The Media Laboratory
Research Assistant. Collaborated on group projects.
Demonstrated research to corporate sponsors.
Supervised undergraduate researchers.
- 1999 Mattel, Inc., El Segundo, CA
Intern in Design & Development Department.
Consulted on embedding digital media in plush toys.
- 1996-1997 MacTemps (now Aquent), Cambridge, MA
Web design and graphic production for clients including the Harvard-Smithsonian Center for Astrophysics and the Harvard University Press.
- 1995-1996 Ken Sherman and Associates, Beverly Hills, CA
Intern. Reviewed scripts and created computer database for literary agency.
- 1995 Magic Mountain, Valencia, CA
Roving Ghoul. Frightened park visitors waiting in line for the Haunted Mansion.
Wielded chainsaw.

PUBLICATIONS:

- 2002 B. Blumberg, M. Downie, Y. Ivanov, M. Berlin, M. P. Johnson, B. Tomlinson. "Integrated Learning for Interactive Synthetic Characters." In: *Computer Graphics, Proceedings of SIGGRAPH 2002*. San Antonio, TX.
- 2002 B. Tomlinson, M. Downie, M. Berlin, J. Gray, D. Lyons, J. Cochran, B. Blumberg. "Leashing the AlphaWolves: Mixing User Direction with Autonomous Emotion in a Pack of Semi-Autonomous Virtual Characters." In: *Proceedings of the 2002 ACM SIGGRAPH Symposium on Computer Animation*. San Antonio, TX.
- 2002 B. Tomlinson, B. Blumberg. "Synthetic Social Relationships in Animated Virtual Characters." In: *From Animals to Animats 7. Proceedings of the Seventh International Conference on the Simulation of Adaptive Behavior (SAB '02)*. Edinburgh, UK.
- 2002 B. Tomlinson, B. Blumberg. "Social Synthetic Characters." In: *Computer Graphics. Vol. 26, No. 2. (May 2002)*.
- 2002 M. Downie, B. Tomlinson, B. Blumberg. "Developing an Aesthetic: Character-Based Interactive Installations." In: *Computer Graphics. Vol. 26, No. 2. (May 2002)*.
- 2002 W. Tomlinson. "Synthetic Social Relationships for Computational Entities." Doctoral Dissertation. MIT Program in Media Arts & Sciences.
- 2002 B. Tomlinson, B. Blumberg. "AlphaWolf: Social Learning, Emotion and Development in Autonomous Virtual Agents." In: *First GSFC/JPL Workshop on Radical Agent Concepts*. NASA Goddard Space Flight Center, Greenbelt, MD.
- 2001 B. Blumberg, B. Tomlinson, M. Downie. "Multiple Conceptions of Character-Based Interactive Installations." In: *Proceedings of Computer Graphics International 2001*. Hong Kong.
- 2001 B. Tomlinson, B. Blumberg. "Social Behavior, Emotion and Learning in a Pack of Virtual Wolves." In: *2001 AAAI Fall Symposium "Emotional and Intelligent II: The Tangled Knot of Social Cognition"*. November 2-4, 2001. North Falmouth, MA.
- 2000 B. Tomlinson, B. Blumberg, D. Nain. "Expressive Autonomous Cinematography for Interactive Virtual Environments." In: *Proceedings of the Fourth International Conference on Autonomous Agents (Agents 2000)*, Barcelona, Catalonia, Spain.
- 2000 B. Tomlinson, B. Blumberg, B. Rhodes. "How Is an Agent Like a Wolf?: Dominance and Submission in Multi-Agent Systems." In: *International ICSC Symposium on Multi-Agents and Mobile Agents in Virtual Organizations & E-Commerce (MAMA 2000)*. Dec. 11-13, 2000. Wollongong, Australia.
- 1999 W. Tomlinson. "Interactivity and Emotion through Cinematography." Master's Thesis. MIT Program in Media Arts & Sciences.
- 1999 B. Tomlinson. "Dead Technology." In: *Style* Vol. 33 No. 2, p. 316-335.
- 1999 Synthetic Characters Group (B. Tomlinson, M. Downie, A. Benbasat, J. Wahl, D. Stiehl, B. Blumberg). "sand:stone - Artist Statement." In: *Leonardo* Vol. 32, No. 5, p. 462-463.
- 1997 B. Tomlinson. "The Sundance Kid." Philadelphia City Paper, 1/30/97

HONORS & AWARDS:

- 2002 Prix Ars Electronica, Honorary Mention, Interactive Art, "AlphaWolf"
- 1997-2002 MIT Media Lab Research Assistantship, Synthetic Characters Group
- 1998 Cinanima – Choice of the Jury, "Shaft of Light"
- 1997 World Animation Celebration – 2nd Place, The Jim Henson Award for Best Stop Motion Produced by an Independent, "Shaft of Light"
- 1997 CINE – Eagle, "Shaft of Light"
- 1997 Black Maria Film Festival – Director's Choice, "Shaft of Light"
- 1996 Artfront Partnership Grant – "Boxed In"
- 1995 CalArts New Plays Festival – play selected for production, "Shaft of Light"
- 1994 Eliot House Master's Cup – for service to Eliot House, Harvard University
- 1992 Alexander Agassiz Cup – Harvard University Intramural Crew championship

INTERACTIVE MEDIA INSTALLATIONS:

- 2002 "AlphaWolf" – Future Cinema exhibition, ZKM Center for Art and Media, Karlsruhe, Germany
B. Tomlinson, M. Downie, M. Berlin, J. Gray, A. Wong, R. Burke, D. Isla, Y. Ivanov, M. P. Johnson, D. Lyons, J. Cochran, B. Yong, B. Blumberg (to appear)
- 2002 "AlphaWolf" – Ars Electronica 2002, Linz, Austria (to appear)
- 2002 "AlphaWolf" – Game Developers Conference, Morgan Kaufmann Booth, San Jose, CA
- 2001 "AlphaWolf" - SIGGRAPH 2001, Los Angeles, CA
- 2000 "sheep|dog: Trial by Eire" - Electronic Entertainment Expo (E3 '01), Los Angeles, CA
B. Blumberg, R. Burke, D. Isla, M. Downie, S. Eaton, B. Tomlinson, M. Berlin, J. Gray, D. Stiehl
- 2000 "sheep|dog: Trial by Eire" – Opening of the MediaLabEurope, Dublin, Ireland
- 1999 "sand:stone" – 7th New York Digital Salon, New York, NY
B. Tomlinson, M. Downie, A. Benbasat, J. Wahl, D. Stiehl, B. Blumberg
- 1999 "void*: A Cast of Characters" – SIGGRAPH 99, Los Angeles, CA
B. Blumberg, B. Tomlinson, M. P. Johnson, S.-Y. Yoon, M. Downie, A. Benbasat, J. Wahl, D. Stiehl, D. Nain
- 1998 "Swamped!" – SIGGRAPH 98, Orlando, FL
B. Blumberg, M. P. Johnson, M. Hlavac, C. Kline, K. Russell, B. Tomlinson, S.-Y. Yoon, A. Wilson, T. Marrin, J. Paradiso, J. Wahl, Z. Teegarden, D. Stiehl
- 1997 "Toco the Toucan" – SIGGRAPH 97, Los Angeles, CA
D. Roy, M. Hlavac, T. Jebara, B. Tomlinson, C. Wren, A. Pentland
- 1996 "Boxed In" – 15'x10'x6' sculpture/video installation, The Artfront Partnership, Philadelphia, PA
B. Tomlinson, L. Tomlinson

FILMS:

- 1996 Filmmaker – “Shaft of Light” – 16mm. stop motion animation (8 min. 46 sec.)
Theatrical Screenings (1996-98):
Sundance Film Festival
World Animation Celebration
Black Maria Film Festival
Cinanima
Directors Guild of America
GenArt Film Festival
Medicine Wheel Film Festival
New Orleans International Short Film Festival
New York Expo of Short and Documentary Film
Palm Springs International Short Film Festival
Philadelphia Festival of World Cinema
Uppsala International Short Film Festival
Denver International Film Festival
Sinking Creek International Short Film Festival
Albany International Short Film Festival
Bilbao International Festival of Documentary and Short Film
Taos Talking Pictures
Armchair Film Festival
Atlanta International Film Festival
Florida International Film Festival
Brussels International Festival of Fantasy, Thriller and Science Fiction
Television Screenings:
Bravo (1997-2000)
Independent Film Channel (1997-2000)
Sci-Fi Channel (“Exposure,” 2000-2001)
Distributed by the Anti-Defamation League in its Anti-Bias/Diversity Catalog
- 1996 Writer/Director/Producer – “Artemis” – 16mm. live action feature (75 min.)
- 1994 Co-Director – “Boot Camp” – 16mm. live action documentary (28 min.)
Screening: Stanford University Film Festival

THEATER:

- 1995 Actor – “All Men Are Whores,” role: Kevin, produced at CalArts
- 1995 Writer – “Shaft of Light,” CalArts New Plays Festival
- 1994 Tech Crew – “A Forum Affair,” Hasty Pudding Theatricals 146
- 1994 Lighting Designer – “Spring Show,” Harvard-Radcliffe Dance Club
- 1993 Director – “Dracula,” Eliot House Drama Society, Harvard College
- 1993 Director – “Pygmalion,” Eliot House Drama Society, Harvard College
- 1992 Actor – “Little Shop of Horrors,” role: Audrey II (puppeteer),
Kirkland House Drama Society, Harvard College
- 1992 Actor – “Joseph and the Amazing Technicolor Dreamcoat,” role: Zebulun,
Kirkland House Drama Society, Harvard College
- 1992 Actor – “Danton's Death,” role: LaCroix, Kirkland House Drama Society, Harvard College

INVITED LECTURES:

- 2002 "Social Synthetic Characters and Interactive Installations" – RPI iEAR Studio, Troy, NY
- 2002 "Some stories about making characters." – USC Division of Animation and Digital Arts, Los Angeles, CA
- 2001 "Synthetic Social Behavior" – Keynote, International Conference on Virtual Storytelling, Avignon, France. (Delivered in place of B. Blumberg, who was unable to attend.)
- 2001 "Synthetic Social Intelligence" – Metapolis Think Tank, Barcelona, Catalonia, Spain
- 2001 "Toys as Interfaces to Computer Games" – Entertainment in the Interactive Age, USC, Los Angeles, CA
- 2001 "Synthetic Characters, Entertainment, and Film" – Future Film Festival, Bologna, Italy
- 2000 "Putting the 'Living' in Living Architectures" – Living Architectures Summit, Banff New Media Institute, Banff, Canada (with R. Burke)
- 2000 "Compelling Synthetic Character Design" – FMX2K, Stuttgart, Germany
- 2000 "Building Life-Like Characters" – University of the Arts, Philadelphia, PA (Paradigm Lecture Series)
- 1998 "On 'Shaft of Light'" – Eliot House Senior Common Room, Harvard University
- 1998 "Toys with Character" – Tokyo Toy Show, Tokyo, Japan
- 1996 "Making 'Shaft of Light'" – Uppsala International Short Film Festival, Uppsala, Sweden

TEACHING EXPERIENCE:

- 1997-
2002 Massachusetts Institute of Technology, Cambridge, MA
Undergraduate Research Opportunities Program
Supervised undergraduate researchers. Directed research and participation in group projects.
AlphaWolf (2001) – Led team of sixteen (eight full-time), including seven undergrads.
sand:stone (1999) – Led team of six, including two undergrads.
void* (1999) – Second author on team of nine, including three undergrads.
- 2001 Cambridge University, Cambridge, UK
Cambridge University Moving Image Studio/MIT workshop
"Autonomous Camera Control for Virtual Environments"
- 2001 Massachusetts Institute of Technology, Cambridge, MA
Fall Sponsor Week, The Media Laboratory
"Workshop on Embodied Presence"
Led by Prof. Bruce Blumberg, Prof. Cynthia Breazeal and Bill Tomlinson
Attendees included Stan Winston (founder of Stan Winston Studio, creator of special effects for movies such as *The Terminator* and *Jurassic Park*) and Ivy Ross (Senior VP at Mattel).
- 1998 Massachusetts Institute of Technology, Cambridge, MA
Guest Lecture, "Introduction to Media Studies." Professor: Glorianna Davenport
- 1996 California Institute of the Arts, Valencia, CA
Teaching Assistant, "Stop-Motion Animation." Instructor: Gary Schwartz

TECHNICAL SKILLS:

Programming Languages:

- Java – 5 years
- Java servlets – 2 years
- C/C++ – 1 year
- SQL – 2 years
- HTML – 7 years

Development Environments:

- Visual Café – 3 years
- JBuilder – 1 year
- Eclipse – 1 year

Graphics:

- Adobe Photoshop – 9 years
- Adobe Illustrator – 9 years

Animation:

- 3D Studio Max – 5 years
- Character Studio – 2 years
- Flash (and ActionScript) – 1 year
- GIF animation – 7 years

Operating Systems:

- Windows – 5 years
- Mac – 5 years
- Unix – 5 years

Film:

- Bolex – 5 years
- Éclair NPR – 2 years
- Mole-Richardson lights – 3 years
- Oxberry camera stand – 2 years

Sound:

- Nagra – 3 years
- Sennheiser microphones – 3 years

Video:

- Betacam – 5 years
- ¾ inch – 2 years
- Hi-8 – 5 years
- Mini-DV – 3 years
- VHS – 10 years

Editing:

- Final Cut Pro – 3 years
- Media 100 – 2 years
- ¾ inch linear editing – 4 years
- Moviola – 3 years
- Steenbeck – 3 years

Photography:

- Nikon – 8 years
- Various digital models – 5 years

Sculpture:

- Plaster – 20 years
- Clay – 20 years
- Wire – 20 years
- Sand – 20 years
- 3-D Printer – 4 years

SELECTED REVIEWS:

- "Pet Tech," Scientific American Frontiers (television program), Host: Alan Alda, 10/16/01
- "Fresh Gear," Tech TV, 9/22/01
- "Dancing with virtual wolves," A. Hermida, news.bbc.co.uk, 9/10/01
- "Gadgetry Still Dazzles at Tech Conference, But Tech Slump Affects Turnout," M. P. Grenier, The Wall Street Journal, 8/22/01
- "Growls and howls hit graphics show," M. P. Grenier, ZDNet, 8/22/01
- "Where the Mona Lisa Meets the Motherboard," G. Gaslin, LA Times, 8/17/01
- "SIGGRAPH 2001 – is experimentation really dangerous?" www.interactionbydesign.com, 8/17/01
- "Computer Developers Aiming to Exterminate the Mouse," A. Pham, LA Times, 8/14/01
- "Feeling the virtual force in LA," T. Logan, news.bbc.co.uk, 8/12/01
- "Stretching it out at SIGGRAPH," M. Stroud, www.wired.com, 8/11/01
- "New World Interface," K. Miller, New Times LA, 8/2/01
- "Not Just Fun and Games," C. Shepherd, E3 Show Daily, 5/18/01
- "Exposure," Sci-Fi Channel, Host: Lisa Marie, 4/28/01
- "All the World's Problems on Index Cards," B. Longan, www.statesecrets.com, 1/19/01
- "Banff Media Institute Living Architectures," Leonardo Electronic Archive, Vol. 8, No. 12, 12/06/00
- "Banff living architectures summit," M. Locke, www.rhizome.org, 9/28/00
- "Lights, Camera, Interaction," D. P. Mahoney, Computer Graphics World, 4/00
- "Sklave oder bester Freund?" W. Lackner, 3D Live, 4/00
- "High Tech Entertainment," CNN, 12/21/99
- "Thinking' game characters in development," USA Today, 8/11/99
- "Philadelphia," M. Moss and R. Rice, Sculpture Magazine, 5/99
- "MIT designs toys of tomorrow," R. Sykes, www.cnn.com 12/21/98
- "Siggraph Exhibit Gets a Lot of Hits," K. Kaplan, LA Times, 8/11/97
- "Independent Effort," E. Lotozo, Philadelphia Weekly, 5/7/97
- "Critical Mass Art," R. Rice, Philadelphia City Paper, 12/4/96
- "Artfronts Matter," D. Kasrel, Philadelphia City Paper, 11/28/96
- "Young filmmaker brings talents home," C. McGroarty, Philadelphia Inquirer, 8/18/95