

D. Fox Harrell, Ph.D.

Curriculum Vitae

Address Georgia Institute of Technology
School of Literature, Communication, and Culture
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Academic Position

Georgia Institute of Technology; Assistant Professor, Fall 2007 – present
Digital Media Program, School of Literature, Communication, and Culture
• National Science Foundation (NSF) CAREER Award

Education **University of California, San Diego**; Department of Computer Science and Engineering,
La Jolla, California

Ph.D. in Computer Science and Cognitive Science, Spring 2007
• National Science Foundation (NSF) Graduate Research Fellowship
• Ford Foundation Dissertation Fellowship

New York University; Tisch School of the Arts, New York City, New York
Master of Professional Studies Interactive Telecommunications, May 2000
• Jacob K. Javits Fellowship

Carnegie Mellon University; School of Art, Department of Philosophy, School of Computer
Science, Pittsburgh, Pennsylvania

Bachelor of Fine Arts Art,
• concentration Electronic and Time Based Media,
with University and College Honors, May 1998

Bachelor of Science Logic and Computation,
• concentration in Artificial Intelligence,
with University and College Honors, May 1998

Minor in Computer Science
• Carnegie Mellon University Merit Scholarship

University of California, Berkeley, Berkeley, California, August 1995 - August 1996

Phi Beta Kappa honor society member

Previous Academic Employment

Georgia Institute of Technology; Visiting Assistant Professor, Spring 2007
Digital Media Program, School of Literature, Communication, and Culture

Research Interests

Computational (interactive and generative) narrative; artificial intelligence (AI) and the arts, AI studies, computer gaming, cognitive semantics, social aspects of user-interface design

Artistic Interests

Imaginative cognition applied to social critique; developing technology for representation, generation, and expression of subjective, metaphorical, and dynamic content; critique and analysis of the intersection of social classification, cognitive categorization, identity, and technology; cross-cultural narrative forms, especially as enabled by computational technology

Publications

Book D. Fox Harrell. *Phantasmal Media: An Approach to Imagination, Computation, and Expression*, MIT Press, accepted for external review.

Dissertation

Theory and Technology for Computational Narrative: An Approach to Generative and Interactive Narrative with Bases in Algebraic Semiotics and Cognitive Linguistics

Advisor: Joseph Goguen (Computer Science and Engineering)

Thesis Committee: Gilles Fauconnier – Co-chair (Cognitive Science), Geoff Voelker – Co-chair (Computer Science and Engineering), Victor Vianu (Computer Science and Engineering), Lev Manovich (Visual Arts), Simon Penny (Arts and Engineering, U.C. Irvine)

Book Chapters

Joseph Goguen and D. Fox Harrell. "Style: A Computational and Conceptual Blending-Based Approach," in *The Structure of Style: Algorithmic Approaches to Understanding Manner and Meaning*, Shlomo Argamon and Shlomo Dubnov, Eds., Berlin:Springer-Verlag, 2009.

D. Fox Harrell. "Algebra of Identity: Skin of Wind, Skin of Streams, Skin of Shadows, Skin of Vapor," in *Critical Digital Studies*, Arthur Kroker and Marilouise Kroker, Eds., Toronto: University of Toronto Press, 2008. (originally in *CTHEORY, An international peer-reviewed journal of theory, technology, and culture*, October, 2005.)

D. Fox Harrell. "GRIOT's Tales of Haints and Seraphs: A Computational Narrative Generation System," in *Second Person: Role-Playing and Story in Games and Playable Media*, N. Wardrip-Fruin and P. Harrigan, Eds. Cambridge:MIT Press, 2007.

D. Fox Harrell. "Metalogic, Qualia, and Identity on Neptune's Great Moon: Meaning and Mathematics in the Works of Joseph A. Goguen and Samuel R. Delany," in *Algebra, Meaning, and Computation: A Festschrift in Honor of Professor Joseph Goguen*, Berlin:Springer-Verlag, 2006.

D. Fox Harrell. "Speaking in Djinni: Media Arts and the Computational Language of Expression," in *Life in the Wires: The CTHEORY Reader*, A. Kroker and M. Kroker, Eds., Victoria:New World Perspectives/CTheory Books, 2004.

Joseph Goguen and D. Fox Harrell. "Information Visualization and Semiotic Morphisms," in *Multidisciplinary Approaches to Visual Representations and Interpretations*, Grant Malcolm, Ed. Oxford:Elsevier, 2004.

Journals

D. Fox Harrell. "Toward a Theory of Critical Computing: The Case of Social Identity Representation in Digital Media Applications," invited paper, *CTheory, an international peer-reviewed journal of theory, technology, and culture*, forthcoming 2009.

D. Fox Harrell. "Toward a Theory of Phantasmal Media: An Imaginative Cognition- and Computation-Based Approach to Digital Media," *CTheory, an international peer-reviewed journal of theory, technology, and culture*, 2009.

Joseph Goguen and D. Fox Harrell. "Foundations for Active Multimedia Narrative: Semiotic Spaces and Structural Blending," *Interaction Studies*, in revision, 2009.

D. Fox Harrell and Kenny K. N. Chow, "Generative Visual Renku: Linked Poetry Generation with the GRIOT System," *Hyperbix: New Media Cultures* (a peer-reviewed satellite journal of Rhizomes: Cultural Studies in Emerging Knowledge), 2009.

D. Fox Harrell. "Cultural Roots for Computing: The Case of African Diasporic Orature and Computational Narrative in the GRIOT System," in Issue 11, *Fibreculture Journal* (peer-reviewed international journal), 2008. Originally in *Proceedings of the 7th Digital Arts and Culture Conference*, September 2007.

Conference Proceedings

Kenny K. N. Chow and D. Fox Harrell. "Material-Based Imagination: Embodied Cognition in Animated Images," *Proceedings of the Digital Arts and Culture Conference*, December 2009.

Jichen Zhu and D. Fox Harrell. "System Intentionality and the Artificial Intelligence Hermeneutic Network," *Proceedings of the Digital Arts and Culture Conference*, December 2009.

S. Veeragoudar Harrell and D. Fox Harrell. "Exploring the Potential of Computational Self-Representations for Enabling Learning: Examining At-risk Youths' Development of Mathematical/Computational Agency," *Proceedings of the Digital Arts and Culture Conference*, December 2009.

D. Fox Harrell. "Computational and Cognitive Infrastructures of Stigma: Empowering Identity in Social Computing and Gaming," *Proceedings of the Association for Computing Machinery (ACM) Conference on Cognition and Creativity*, 2009.

D. Fox Harrell. "Avatar Art: Transformative Outcomes of the Advanced Identity Representation Project," *Proceedings of the Inter Society for Electronic Art (ISEA) Conference*, 2009.

Jichen Zhu and D. Fox Harrell. "Memory, Reverie Machine: Toward a Dance of Agency in Interactive Storytelling," *Proceedings of the Inter Society for Electronic Art (ISEA) Conference*, 2009.

D. Fox Harrell, Daniel Upton, Ben Medler, and Jichen Zhu. "Define Me: A Cognitive and Computational Approach to Critical Digital Identity Representation in Social Networking Applications," *Proceedings of the 2009 Digital Humanities Conference*, 2009.

Jichen Zhu and D. Fox Harrell. "The Artificial Intelligence (AI) Hermeneutic Network: A New Approach to Analysis and Design of Intentional Systems," *Proceedings of the 2009 Digital Humanities Conference*, 2009.

D. Fox Harrell and Jichen Zhu. "Agency Play: Dimensions of Agency for Interactive Narrative Design," in *Proceeding of the AAAI 2009 Spring Symposium on Narrative Intelligence II*, AAAI Press, 2009.

Jichen Zhu and D. Fox Harrell. "Daydreaming with Intention: Scalable Blending-Based Imagining and Agency in Generative Interactive Narrative," in *Proceeding of the AAAI 2008 Spring Symposium on Creative Intelligent Systems*, AAAI Press, 2008.

D. Fox Harrell. "Walking Blues Changes Undersea: Imaginative Narrative in Interactive Poetry Generation with the GRIOT System," in *Proceeding of the AAAI 2006 Workshop in Computational Aesthetics: Artificial Intelligence Approaches to Happiness and Beauty*, AAAI Press, 2006.

D. Fox Harrell. "Shades of Computational Evocation and Meaning: The GRIOT System and Improvisational Poetry Generation," in *Proceedings of the 6th Digital Arts and Culture Conference*, 2005, pp. 133-143.

Joseph Goguen and D. Fox Harrell. "Style as Choice of Blending Principles," in *Style and Meaning in Language, Art, Music and Design, Papers from the 2004 AAAI Fall Symposium, Technical Report FS-04-07*, 2004, pp. 49-56.

Reviews

D. Fox Harrell. "Ghost Values – Infrastructures of Digital Design Conference Review," in *Convergence – The Journal of Research into New Media Technologies*, vol. 9, issue 3, Autumn 2003, pp. 106-110.

Invited Talks D. Fox Harrell, "Phantasmal Media: Practice and Theory of Imagination Computing," invited talk, MIT, *Purple Blurb Digital Writers Series*, 2009.

D. Fox Harrell, "Computing Phantasms: Imagination, Subjectivity, and Digital Media Expression," invited talk, International Roundtable for the inauguration of the Research Institute for the Converging Arts & Sciences, University of Greenwich, London, U.K., 2009.

D. Fox Harrell, "Blending Imagination, Computation, and Expression: Ruminations on Interdisciplinary Practice in Digital Media Arts, Computing, and Cognitive Science," invited talk Ford Foundation Fellows Conference (presented by Ernesto Chavez), 2009.

D. Fox Harrell, "Phantasms and Shapeshifters: Imagination and Identity in Computing," Noted Scholar Lecture, Center for Cross-Faculty Inquiry (CCFI), University of British Columbia, 2009.

D. Fox Harrell, "Digital Shadows: Narrative and Empowerment in Social Identity Computing," *CTheory/Pacific Center for Technology and Culture*, Critical Digital Studies Workshop, 2009.

D. Fox Harrell, "Imagination, Computation, and Expression: A Cognitive Approach to Storytelling and Identity," MIT Media Lab, 2009.

D. Fox Harrell, "Social Storytelling and Digital Identity: Empowering Narratives for Diverse Communities," invited talk, Center for Disease Control (CDC): Impacting the Health of Millions through Social Marketing and Entertainment Education: The Power of Narratives, 2009.

D. Fox Harrell, "Imagination, Computation, and Expression: A Cognitive Approach to Digital Media Arts," Case Western Reserve University Cognitive Science Colloquium, invited talk, 2009.

D. Fox Harrell. "SF and Technoculture Panel Discussion," The Sublime in the Fantastic: The 29th International Conference on the Fantastic in the Arts, panelist, Orlando, FL, 2008.

D. Fox Harrell. "Computational Meaning Evocation: Cognitive Linguistics and Digital Poetics," talk/panelist, South Atlanta Modern Language Association (SAML) Convention, 2007.

D. Fox Harrell. "Ghosts, seraphs, and daily life under the heavy sea: Cognitive Semantics and Computational Narrative with the GRIOT System," Georgia Institute of Technology, Literature, Communication, and Culture Lecture Series, 2006.

Conference Presentations and Panels

D. Fox Harrell. "Phantasmal Narrative: Values, Games, and Cultural Expression in Interactive Stories," *A Narrative Summit: How to Think About Narrative and Interactivity With Espen Aarseth, Janet Murray, and Fox Harrell*, Georgia Institute of Technology, 2009.

Kenny K. N. Chow and D. Fox Harrell. "Active Animation: An Approach to Interactive and Generative Animation for User-Interface Design and Expression," software demo/poster *Proceedings of the 2009 Digital Humanities Conference*, 2009.

D. Fox Harrell and Kenny K. N. Chow, "Generative Visual Renku: Linked Poetry Generation with the GRIOT System," Visionary Landscapes: Electronic Literature Organization Conference, Vancouver, WA, 2008.

Jichen Zhu and D. Fox Harrell. "Narrating Artificial Daydreams, Memories, Reveries: Toward Scalable Intentionality in Expressive Artificial Intelligence Practice," Visionary Landscapes: Electronic Literature Organization Conference 2008, Vancouver, WA, 2008.

D. Fox Harrell. "Digital Metaphors for Phantom Selves: Computation, Mathematics, and Identity in Speculative and Fantastic Fiction and Gaming," The Sublime in the Fantastic: The 29th International Conference on the Fantastic in the Arts, Orlando, FL, 2008.

D. Fox Harrell. "Algebra of Identity: Skin of Wind, Skin of Streams, Skin of Shadows, Skin of Vapor," Powering Up/Powering Down, An International Festival of Radical Media Arts, La Jolla, California, 2004.

Performances D. Fox Harrell, "Loss, Undersea," Digital Arts and Culture Conference Literary Arts Extravaganza, Irvine, CA, December 2009.

D. Fox Harrell, "Fantastic Transformations and Blends: A Reading of Computationally Generated and Traditionally Written Prose Poetry," The Sublime in the Fantastic: The 29th International Conference on the Fantastic in the Arts, Orlando, FL, 2008.

D. Fox Harrell, Joseph Goguen. "The Griot Sings Haibun," Music: Bertram Turetzky, David Borgo, and Ryoko Goguen, multimedia performance at the California Institute for Telecommunications and Information Technology, Center for Research in Computing and the Arts, La Jolla, California, 2005.

Teaching and Advising Experience

Ph.D. Students Graduated

Jichen Zhu, July 2009

Courses Taught

Project Studio/Lab: Imagination, Computation, and Expression (LCC 6650)

I taught a research- and project-based course that explores the intersection of imaginative cognition and computational expression through a combination of theory and practice. The view of imaginative cognition is grounded in cognitive science approaches emphasizing the embodied, distributed, and situated nature of cognition, focusing on topics such as metaphor, analogy, conceptual blending, and narrative imagining.

Design, Technology, and Representation (LCC 6312)

I taught a graduate level course on production and analysis of representational technologies (with foci on social identity representation and computational literacies) to students pursuing Ph.D. and M.S. degrees in Digital Media at the Georgia Institute of Technology.

Technologies of Representation (LCC 3314)

I taught an undergraduate level course on production and analysis of representational technologies (with foci on social identity representation and computational literacies) to students primarily pursuing B.S. degrees in Computational Media at the Georgia Institute of Technology.

Special Topics in Technologies of Representation – African Film and Digital Media (LCC 8831, 3314)

I co-taught a graduate/undergraduate level course on production and analysis of representational technologies with a focus on African Cinema, the Arts, and Digital Media to students pursuing Ph.D., M.S., and B.S. degrees in Digital/Computational Media at the Georgia Institute of Technology.

Undergraduate Research: Imagination, Computation, and Expression (LCC 2699/4699)

I taught undergraduates participating in the graduate research and production course LCC 6650.

Principles of Visual Design (LCC 2720)

I taught an undergraduate level course in digital design focusing on principles of design, semiotics, psychology of design, typography (static and dynamic), and information design to students primarily pursuing B.S. degrees in Computational Media at the Georgia Institute of Technology.

Interactive Fiction (LCC 6317)

I taught a graduate level course in interactive fiction to students pursuing Ph.D. and M.S. degrees in Digital Media at the Georgia Institute of Technology.

Interactive Narrative (LCC 4720)

I taught an undergraduate level course in interactive narrative to students pursuing B.S. degree in Computational Media at the Georgia Institute of Technology.

User Interface Design: Social and Technical Issues (CSE 171)

I led discussion sections, managed other teaching assistants, and fulfilled other educational obligations for an upper-division computer science class of 160+ students at UCSD. I also substituted as lecturer on several occasions. Head Teaching Assistant, Spring 2002, Spring 2006.

User Interface Design: Social and Technical Issues (CSE 271, 171)

I taught four classes in User Interface Design at the graduate and upper-division undergraduate levels at UCSD. Guest Lecturer, 4/05.

Computational Narrative (CSE 87)

I co-developed and co-taught a freshman seminar on Computational Narrative (CSE 87) at UCSD. Lecturer, Winter 2004.

Programming Languages (CSE 130)

I led discussion sections, managed other teaching assistants, helped to design tests, and fulfilled other educational obligations for an upper-division computer science class of 160+ students at UCSD. I also substituted as lecturer on several occasions. Head Teaching Assistant, Winter 2002, Winter 2004.

Design and Analysis of Experiments (Cognitive Science 14)

I led discussion sections, and fulfilled other educational obligations for a lower-division cognitive science class of 100+ students at UCSD. Teaching Assistant, Fall 2002.

Teaching Interests

Primary areas: Interactive Narrative (design and analysis), Cognitive Science and Interactive Media, Artificial Intelligence and Interactive Media, Social Identity and Computing, Game Design and Analysis
Complimentary areas: User-Interface Design: Social and Technical Issues, Programming Languages

Other Relevant Experience

Playlink, Inc., 1/00 – 4/01

Game Developer: I designed and programmed online games in Java.

Oxygen Media, Inc., 5/99 – 12/99

Interaction Producer on *The Ruth Truth*, an interactive television series aired on the Oxygen cable network (also on the web): *The Ruth Truth* won Grand Prize and Best Mixed-Media for the Web in the Shockwave.com World Animation Competition on June 4, 2000. I designed the interaction model, acted as a technology consultant, and supervised web production on this interactive narrative animation project completed in Flash 4 for television.

Professional Organizations/Activities

Institute for the Converging Arts and Science, University of Greenwich, U.K.; founding member

Digital Arts and Culture Conference, 2009; Theme Leader (Cognition and Creativity) and executive committee member

International Conference on Computational Creativity, 2010; programming committee member

Association for the Advancement of Artificial Intelligence; lifetime member

Digital Arts and Culture Conference, 2007; advisory panel member

Cognition in Mathematics, Science, and Technology E-Journal (Cognitive Science Network from the Social Science Research Network (SSRN)); advisory board member

MIT Press; reviewer

CTHEORY, an international peer-reviewed journal of theory, technology, and culture; reviewer

M/C: A Journal of Media and Culture; reviewer

Ethics and Information Technology Journal; reviewer

Modern Language Association, member; South Atlantic Modern Language Association, member

Electronic Literature Organization, member

International Conference on Intelligent User Interfaces, reviewer

NYU Black Students in New Media Association, founding member and primary author of the mission statement

Honors/Grants National Science Foundation (NSF) CAREER Award, \$535,062/5 Years

Ford Foundation Dissertation Fellowship

National Science Foundation (NSF) Graduate Research Fellowship

Ford Foundation Predoctoral Fellowship (unable to accept due to NSF Fellowship)

Jacob K. Javits Fellowship, U.S. Department of Education

Eugene Cota-Robles Fellowship

MASEM Fellowship, National Science Foundation

UJIMA Network Award for Outstanding Academic Excellence

Samuel Rosenberg Senior and John L. Porter Junior Awards for highest achievement in art, Carnegie Mellon University

Carnegie Mellon University Merit Scholarship for full tuition

Eisner Awards Competition for Video Art (honorable mention), Pacific Film Archive of the University Art Museum in Berkeley

Artistic Skills Specialization in computational narrative, video art, fiction writing
Experience in animation, drawing, painting, printmaking (intaglio, serigraphy, lithography), mixed-media sculpture, welding, small metal sculpture, clay sculpture

Hobbies Capoeira Angola (African/Brazilian martial art/dance), Scuba Diving

Language Some conversational Portuguese