Steven M. Drucker

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Education

Massachusetts Institute of Technology - Media Laboratory, 9/89-6/94
Ph.D. in Arts and Media Technology: advisor Professor David Zeltzer. Committee: Dr. Alex Pentland, Dr. Pattie Maes, and Glorianna Davenport. Thesis title: Intelligent Camera Control for Graphical Environments. Research topics: virtual environments, graphical simulations, human-computer interaction, telerobotics, and parallel computer graphics algorithms.

Massachusetts Institute of Technology - Artificial Intelligence Laboratory, 9/86-6/89
M.S. in Brain and Cognitive Sciences. Research topics: machine learning, robot juggling, the Utah-MIT dexterous four-fingered robotic hand, tactile sensing systems, human hand capabilities, and real time vision systems.GPA: 5.0/5.0.

Brown University, 9/81-6/84
Graduated Magna Cum Laude with Honors, Sc.B. in Department of Neural Sciences.

Employment

Interzone Inc., present
Designing and implementing wine purchase system over the World Wide Web.

Medical Media Systems, Summer 6/93, present
Consultant. User Interface design and graphics systems programming for Medical Computer Graphics company.

MIT Media Laboratory, 9/89 to 6/94
Teaching Assistant and Research Assistant in Computer Graphics and Animation.

NHK Japan Broadcasting, Tokyo, 1/93
Consultant. Installed and taught an experimental 3D graphics system and interfaced with 3D input devices in Tokyo.

Thinking Machines Corporation, Summer 6/91, 6/92
Summer Employment. Developed algorithms for massively parallel linedrawing, raytracing, and radiosity. Test suites for parallel graphics library.

MIT Artificial Intelligence Laboratory, 9/86 to 6/89
Research Assistant. Developed learning algorithms for controlling a juggling robot.

Institute for Information and Scholarship - Brown University, 9/84 to 8/86
Full salaried position. Developed prototype Hypertext system and implemented framework layer of Intermedia, a hypermedia system. Development platforms included UNIX 4.2 BSD on Sun Workstations, IBM PC/RTs and Apple Macintoshes.

Brown University - Neural Science Department, 9/82 to 6/84
Research Assistant in Neural Science Lab. Led to eventual honors work in plasticity in cat visual system and motion gated visual environments.

Brown University - Gould Laboratory, 9/82 to 6/84
Technical Support Staff: leader (on call nightly) of group of students assigned to diagnose and correct problems related to the experimental classroom of networked Apollo Workstations.

Brown University - Computer Science Department, 6/82 to 9/82
Research Assistant: implemented three-dimensional model of the human brain, later used in introductory neuroscience class.

References available upon request

Technical Knowledge

Languages & Operating Systems:
Unix (4.3BSD & Sys V), X11, Macintosh, Symbolics Lisp Machine, C, C++, Lisp, TCL/TK, Perl, NextStep

Modelling/Animation Systems:
Vertigo, Alias

Hardware:
SGI Irix 4&5, Sun 3 & 4, HP Series 9000, DEC VAX, IBM PC/RT, Macintosh, Stardent Titan, CM-2., NeXT Machine

Relevant Awards

Co-director of S.I. Animation:
1st Prize for Animation National Association of College Broadcasters
SIGGRAPH Screening Room
Imagina
French Cable Television, Canal+
Spike & Mike's Festival of Animation

Contributor to Grinning Evil Death:
1st Prize Student/Faculty Divison NCGA
Ars Electronica
MTV Liquid Television
SIGGRAPH Film Show
Spike & Mike's Festival of Animation

Virtual Museum:
Film Show GI'94

Arthur J. Poitras Fellowship
Surdna Fellowship
National Science Foundation: Honorable Mention
National Merit Finalist
Maryland State Distinguished Scholar

Invited Presentations
Kunsthochshule für Medien(Cologne, Germany)
GMD (Bonn, Germany)
NACB (Providence, RI)
NHK (Japan)
Dartmouth University (NH)
MERL (Cambridge, MA.)

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Publication List

Drucker, S.M. and D. Zeltzer, CamDroid: A System for Intelligent Camera Control , to appear in SIGGRAPH Special Symposium on 3D Interaction. Monterey, CA. 1995

Drucker, S.M. Intelligent Camera Control for Graphical Environments, Ph.D. Thesis, Massachusetts Institute of Technology, 1994.

Drucker, S.M.,and D. Zeltzer. Intelligent Camera Control in a Virtual Environment. Proceedings of GI '94. Banff, Alberta, CA. April, 1994.

Drucker, S.M., T.A. Galyean, and D. Zeltzer. Cinema: A System for Procedural Camera Movements. SIGGRAPH Special Symposium on 3D Interaction. Cambridge, MA. 1992.

Drucker, S.M., and P. Schröder. Fast Radiosity: A Data Parallel Approach. 3rd Workshop on Photorealistic Rendering. Bristol, U.K. 1992.

Schröder, P., and S.M. Drucker. Data Parallel Raytracing. Graphics Interface '92. Vancouver, B.C.1992.

Zeltzer, D., and S.M. Drucker. A Virtual Environment System for Mission Planning. Proc. 1992 IMAGE VI Conference. Phoenix AZ: 1992. 125-134.

Drucker, S.M. "Task Level Learning on a Complex Task." M.S. M.I.T., 1989.

Aboaf, E., S.M. Drucker, and C.G. Atkeson. Task Level Learning on a Juggling Task. I.E.E.E. Robotics Conference. Scottsdale, AZ. 1989.

Drucker, S.M. "Texture from Touch." Natural Computation. Ed. Whitman Richards. Cambridge: MIT Press, 1988.

Yankelovich, N., B.J. Haan, N.K. Meyrowitz and S.M. Drucker. INTERMEDIA: The Concept and Construction of a Seamless Environment. I.E.E.E. Computer. January. 1988.

Drucker, S.M., and J.M. Hollerbach. Quantification of Precision Grasp Capabilities in Humans. Society of Neurosciences Abstracts. New Orleans, LA. 1987.

Siegel, D.M., S.M. Drucker, and I. Garabieta. Performance Analysis of a Tactile Sensor. I.E.E.E Robotics Conference. 1987.