KARAN SINGH

Date of Birth: 16th Dec. 1969
Nationality: Indian

Office
Paraform, 3052 Bunker Hill Lane,
Santa Clara, CA 95054.
(408) 855-4324
e-mail: karan@paraform.com

Residence
1272 W. McKinley Ave. 3,
Sunnyvale, CA 94086.
(650) 968-3966
e-mail: karansher@hotmail.com

EDUCATION

Ph.D., Computer and Information Science, GPA 3.99/4 — Nov. 1995
Ohio State University, Columbus, OH
Dissertation: Realistic Human Figure Synthesis and Animation for VR Applications (Advisor: Richard Parent).

M.S., Computer and Information Science, GPA 3.98/4 — Dec. 1992
Ohio State University, Columbus, OH

B.S., Computer Science and Engineering, GPA 8.76/10 — July 1991
Indian Institute of Technology, Madras, India

EXPERIENCE

Technical lead: sculpting, design for manufacturability and conceptual automotive design — June 1999-present
Paraform.

Maya modeling and character setup consulting — 1998-present
Disney FA, Weta, luuluu.com.

Researcher/Troublemaker/Maya plug-in making machine — Nov. 1997-May 1999
Alias|Wavefront, Toronto, ON.

Visiting Lecturer, Bungee Jumper — Mar.-May 1999
Computer Science, University of Otago, Dunedin, New Zealand.

Cloth effects, TD work on animated short, Bingo — Sept. 1997-Jan. 1998
Alias|Wavefront, Toronto, ON.

Maya1.0 R+D — Dec. 1995- Oct. 1997
Designed and implemented deformations, character skinning and facial animation in Maya1.0.
Alias|Wavefront, Toronto ON, Santa Barbara CA.

Invited researcher — Jan.-Dec. 1994
Virtual Space Teleconferencing Project. Communication Systems Research Labs
Advanced Telecommunications Research (ATR), Kyoto, Japan.

Bartender — Feb.-June 1994
Taberuna Matano, Oriental Izakaya, Nara, Japan.

Graduate Research Assoc., ACCAD — Sep. 1992-Dec. 1993
Viento Project: Weather Visualization using NASA ACTS satellite.
Ohio State Univ., Columbus, OH.

PATENTS

- Motion synthesis equipment using 3D models
  Tokuganhei 7-42120 (Japanese patent no. 1995 - 42120).
- 3D image synthesis equipment for enabling wrinkle formation
  Tokuganhei 7-105012 (Japanese patent no. 1995 - 105012).
- Wires: A geometric deformation technique
  U.S. Patent pending

SELECTED PUBLICATIONS

Curve and Surface Design

- Skinning Characters using Surface Oriented Free-Form Deformations, K. Singh & E. Kokkevis. *Graphics Interface 2000.*

-Interactive Curve and Surface Design using Digital French Curves, K. Singh, *ACM Symposium on Interactive 3D Graphics, 1999.*

-Exploring Interactive Curve and Surface Manipulation Using a Bend and Twist Sensitive Input Strip, R. Balakrishnan, G. Fitzmaurice, G. Kurtenbach, & K. Singh, *ACM Symposium on Interactive 3D Graphics, 1999.*

-Wires:A geometric deformation technique, K. Singh & E. Fiume, *405-414 SIGGRAPH'98.*

Implicit Surfaces

- Joining Polyhedral Objects using Implicitly Defined Surfaces, K. Singh & R. Parent. *Eurographics 1999, The Visual Computer (accepted, pending pub.)*

- Implicit function based deformations of polyhedral objects, K. Singh & R. Parent. *Eurographics workshop on Implicit Surfaces, Grenoble, France, 113-128, 1995.*

- Realistic modeling and animation of a muscle and skin layer for human figures using implicit function techniques, K. Singh, J. Ohya & F. Kishino. *IPS Japan, CG & CAD Conf, 49-56, 1994 (Paper of the year).*

Virtual Reality and Human Figure Animation

- Human figure synthesis and animation for virtual space teleconferencing, K. Singh, J. Ohya & R. Parent. *IEEE Virtual Reality Ann. International Symposium, 118-126, 1995.*

- Real-time cloth animation effects for virtual space teleconferencing using texture morphing, K. Singh, J. Ohya & F. Kishino. *Proc. IEICI, Japan,IE94-88, 1-8, 1994.*

Graph algorithms and Robotics

- Optimal path cover problem on block graphs and bipartite permutation graphs, R. Srikant, R. Sundaram, K. Singh & C. Rangan. *Theoretical Computer Science, 115:2, 351-357, 1993.*

- Planning cooperative motion for distributed mobile agents, K. Fujimura & K. Singh. *Journal of Robotics and Mechatronics Vol. 8, No. 1, (February 1996), 75-80.*

- Treewidth of circular-arc graphs, R. Sundaram, K. Singh & C. Rangan. *SIAM J. of Discrete Math, 7:4, 647-655, 1994.*