

Andrei Sharf

Curriculum Vitae

Address: Sa'ar Ha'araiot str. 6/6,
Holon 58499, Israel
Phone: +1 (972) 54-8194494
+1 (972) 3-5595685

Web page: <http://www.idav.ucdavis.edu/~asharf>
E-mail: asharf@gmail.com
Citizenship: Israeli
Born: 29.09.1973

Research Interests

Computer graphics and geometric modeling, in particular: surface reconstruction, interactive techniques, geometry processing, shape matching and registration, computational topology, parallel data structures, GPGPU.

Academic Positions

- 2009-present **Visiting Associate Professor**
Center of Visual Computing, Shenzhen Institute of Advanced Technology(SIAT)
Chinese Academy of Sciences, Shenzhen, China
- 2007-2009 **Postdoctoral Researcher**
Institute of Data Analysis and Visualization (IDAV)
Department of Computer Science, University of California Davis, USA

Education

- 2002-2007 Tel-Aviv University, Israel
Ph.D. in Computer Science
Thesis title: "Surface Reconstruction Techniques for Imperfect Raw-Data"
Supervised by Prof. Daniel Cohen-Or and Dr Ariel Shamir
- 1999-2002 Tel-Aviv University, Israel
M.Sc. in Computer Science
Thesis title: "Topology Based Progressive Shape Transformations"
Supervised by Prof. Daniel Cohen-Or and Dr Ariel Shamir
Cum Laude
- 1996-1999 Technion, Israel
B.Sc. in Computer Science

Work Experience

Teaching (School of Computer Science, Tel Aviv University, Israel)

Spring 2006-2007	Operating systems (recitations) Advanced topics in Computer Graphics (guest lecturer)
Fall 2006-2007	Operating systems (recitations)
Spring 2005-2006	Operating systems (recitations) Workshop in Computer Graphics (instructor)
Fall 2005-2006	Software programming project (instructor)
Spring 2004-2005	Advanced topics in Computer Graphics (guest lecturer)
Fall 2004-2005	Software programming project (instructor) Computer Graphics (recitations)
Spring 2003-2004	Workshop in Computer Graphics (instructor)
Fall 2003-2004	Introduction to C language (recitations) Software programming project (instructor)
Spring 2002-2003	Introduction to C language (recitations)
Fall 2002-2003	Introduction to C language (recitations)

Industry

2001-2002	Project Leader (Comverse VoiCD unit) <u>SMS Gateway Development for the Wireless Network:</u> design and development of SMS gateway supporting various protocols: narrow band sockets (SMPP, UCP), wireless (GSM, TDMA, CDMA), transport (TCP, X.25). <u>Telephony Testing Tool Development:</u> Development leader of testing suite over NMS telephony cards for telephony application servers.
1999-2001	Research Engineer (Gaya Software Industries) <u>Noise reduction for Speech Recognition Systems:</u> research and development leader of noise reduction algorithms for speech recognition systems. <u>Media Server Development:</u> design and implementation of MGCP advanced audio protocol for Media Servers. <u>Call Generator Development:</u> development leader of Smart Call Generator over NMS telephony cards, MGCP, SS#7 protocols.
1997-1999	Software Engineer (Intel Development Center) <u>CAD Tools Development:</u> development of software environmental tools and scripts over UNIX and NT.

Publications

Journal publications

- [1] An L1-sparse filter for Sharp Point Set Surfaces. Haim Evron, Andrei Sharf, Chen Greif and Daniel Cohen-Or. ACM Transaction on Graphics 2009.
- [2] Real-Time Parallel Hashing on the GPU. Dan A. Alcantara, Andrei Sharf, Fatemeh Abbasinejad, Shubhabrata Sengupta, Michael Mitzenmacher, John D. Owens and Nina Amenta. ACM Transaction on Graphics (*Proceedings of SIGGRAPH ASIA 2009*).
- [3] Rotating Scans for Systematic Error Removal. Fatemeh Abbasinejad, Yong J. Kil, Andrei Sharf, Nina Amenta. Computer Graphics Forum, Vol. 28(5), pp. 1319-1326, 2009 (*Proceedings of Eurographics/ACM SIGGRAPH Symposium on Geometry Processing 2009, 2nd Best Paper Award*).
- [4] Space-time Surface Reconstruction Using Incompressible Flow. Andrei Sharf, Dan A. Alcantara, Thomas Lewiner, Chen Greif, Alla Sheffer, Nina Amenta, and Daniel Cohen-Or. ACM Transaction on Graphics, Vol. 27(5), pp. 1-10, 2008 (*Proceedings of SIGGRAPH ASIA 2008*).
- [5] On-the-fly Curve-skeleton Computation for 3D Shapes. Andrei Sharf, Thomas Lewiner, Ariel Shamir and Leif Kobbelt . Computer Graphics Forum, Vol. 26(3), pp. 323-328, 2007 (*Proceedings of Eurographics 2007*).
- [6] Interactive Topology-aware Surface Reconstruction. Andrei Sharf, Thomas Lewiner, Gil Shklarski, Sivan Toledo, Daniel Cohen-Or. ACM Transaction on Graphics, Vol. 26(3), 2007 (*Proceedings of SIGGRAPH 2007*).
- [7] SnapPaste: An Interactive Technique for Easy Mesh Composition. Andrei Sharf, Marina Blumenkrants, Ariel Shamir, and Daniel Cohen-Or. The Visual Computer, Vol. 22, pp. 835-844, 2006 (*Proceedings of Pacific Graphics 2006*).
- [8] Competing Fronts for Coarse-to-Fine Surface Reconstruction. Andrei Sharf, Thomas Lewiner, Ariel Shamir, Leif Kobbelt and Daniel Cohen-Or. Computer Graphics Forum, Vol. 25(3), pp. 389-398, 2006 (*Proceedings of Eurographics 2006*).
- [9] Context-based Surface Completion. Andrei Sharf, Marc Alexa and Daniel Cohen-Or. ACM Transactions on Graphics, Vol. 23(3), pp. 878-887, 2004 (*Proceedings of SIGGRAPH 2004*).

- [10] Enhanced Hierarchical Shape Matching for Shape Transformation. Ariel Shamir, Andrei Sharf and Daniel Cohen-Or. *International Journal for Shape Modeling (IJSM)*, Vol. 9(2), pp. 203–222, 2003.

Peer-reviewed international conference publications

- [11] Feature-driven Deformation for Dense Correspondence. Deboshmita Ghosh, Andrei Sharf, Nina Amenta. *Proceeding of SPIE Medical Imaging 2009*.
- [12] Feature-sensitive 3D Shape Matching. Andrei Sharf and Ariel Shamir. CGI '04: *Proceedings of the Computer Graphics International*: pp. 596—599 (2004).

Theses

- [13] Andrei Sharf. *Surface Reconstruction Techniques for Imperfect Raw-Data*. Ph.D. Thesis. Tel-Aviv University, 2007.

Funding

- 2009 Algorithms for Dynamic Scene Reconstruction and Modeling, National Natural Science Foundation of China (NSFC 60910196), PI

Professional Activities

Program Committee member

- 2009 ACM SIGGRAPH ASIA Papers
Eurographics/ACM SIGGRAPH Symposium on Geometry Processing Papers
Pacific Graphics (PG) Papers
- 2008 Symposium on Interactive 3D Graphics and Games Papers

Reviewer

Journals: ACM Transactions on Graphics, IEEE Transactions on Visualization and Computer Graphics, IEEE Computer Graphics and Applications, Computer Graphics Forum, Computers and Graphics, The Visual Computer.

Conferences: ACM SIGGRAPH, Eurographics, IEEE Visualization, Eurographics/ACM SIGGRAPH Symposium on Geometry Processing, Pacific Graphics, Shape Modeling International, Computer Graphics International, Point-based Graphics.

Research visits and collaborations

- 12.2008 Shenzhen Institute of Advanced Technology (SIAT), China
Prof. Baoquan Chen
Problems and results in surface reconstruction from imperfect data
- 12.2007 Imager Laboratory for Graphics - University of British Columbia, Canada
Prof. Alla Sheffer and Prof. Chen Greif
Space-time surface reconstruction
- 9.2007-9.2009 Galleries: Tova Osman, Shai-Arie, “Beit Haomanim” Tel-Aviv, Israel
Gad Apotecker
“Dim.men.sions” exhibition exploring sculptures and digital scans
- 10.2006 Microsoft Research Asia, Beijing, China
Dr. Baining Guo
Interactive Surface Reconstruction

- 12.2005 Mathematics department at PUC - Rio de Janeiro, Brasil
Dr. Thomas Lewiner
Topology aware surface reconstruction

- 04.2004 Computer Graphics and Multimedia, RWTH – Aachen, Germany
Prof. Leif Kobbelt
Watertight surface deformation

- 03.2003-06.2004 Discrete Geometric Modeling Group, Darmstadt, Germany
Prof. Marc Alexa
3D sift features and context-based surface analysis

Invited talks, conference presentations and seminars

- 12.2009 1st Israel China Conference on Graphics and Geometric Computing
- 12.2008 ACM SIGGRAPH ASIA Conference, Singapore
- 12.2008 “CITY” Workshop, Shenzhen, China
- 08.2007 ACM SIGGRAPH Conference, San-Diego, USA
- 05.2007 6th Workshop on Geometric Computing, Israel
- 10.2006 Microsoft Research Asia Beijing, China (invited talk)
- 10.2006 Pacific Graphics Conference, Taipei, Taiwan
- 09.2006 Eurographics Conference, Vienna, Austria
- 05.2006 5th Workshop on Geometric Computing, Israel
- 07.2004 ACM SIGGRAPH Conference, Los-Angeles, USA
- 05.2004 3rd Workshop on Geometric Computing, Israel
- 02.2003 4th Israel-Korea Conference on Geometric Modeling and Graphics, Israel