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IEEE and ACM (Senior Member)

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Education

- PhD of Computer Science, EPFL, Switzerland, 1997
- MEng of Computer Engineering, Tsinghua University, China, 1988
- BEng of Computer Engineering, Tsinghua University, China, 1986

Work Experiences

- 2013-Present Senior Scientist, Robotics, I²R
Senior Manager, Industry Development, I²R
Strategic Planning Manager, Robotics, I²R
Co-PI, Robot Application Development and Operating Environment (RODOE),
SERC Industry Robotics Programme, A*STAR
- 2010-Present Adjunct Associate Professor, Department of Computer Science, School of Computing, NUS
- 2014-2015 Co-PI, Robot Assisted Shelf Reading project
- 2013-2014 Programme Manager, SERC Human Factor Engineering, A*STAR
- 2007-2013 Department Head, Computer Graphics and Interface, I²R
- 2003-2006 Associate Faculty Member, Singapore-MIT Alliance
- 1997-2006 Assistant Professor, Department of Computer Science, School of Computing, NUS
- 1992-1997 Research Assistant, Computer Graphics Lab, EPFL, Switzerland
- 1988-1992 Lecturer, Department of Computer Science and Technology, Tsinghua University, Beijing, China

Specialty & Technical Skills

- Expertise: 3D Graphics / Animation / Rendering, Visualization, Human-computer/robot interface and interaction, Robotic software system, Parallel computing (GPU), Computer Vision and Machine Learning
- Technical Skills: Software engineering, design and implementation, Data Structures and Algorithms, Math and Physics
- Programming: C++, C, Java, Tools / API (CUDA, OpenGL), Scripting / Programming (Python), Visualization toolkit (VTK), TCP/IP
- Knowledge: PVM, MPI and OpenMP
- Systems: UNIX, Windows

- Experiences: Commercialization, IP licensing, Industry development, Research management

Industry development

- Specialized in the domains of Human Language Technology, Natural Language Processing and Robotics.
 - Account manager, government agencies X and Y.
 - Licensing
 - Speech technologies to China MNC A1 with \$X1 and Japan SME A2 with \$X2.
 - Audio processing technology to Singapore SME A3 with \$X3.
 - Initiated, negotiated and signed industry development contract with
 - China MNC B1 with \$Y1 for N1 months.
 - China MNC B2 with \$Y2 for N2 months.
 - Singapore LLE B3 with \$Y3 for N3 months
 - Singapore SME B4 with \$Y4 for N4 months
- Course and Training
 - Took the 7th Certificate in Commercial Law and Technology Transfer (CCLTT) Class, by Temasek Polytechnic from Sept 2015 to Feb 2016, finished with B+ (projects and exam of Contract Law and Director's Duty).
 - Took and passed the corporate training in November 2015 (negotiation, value capture, IP management, Ethics).

Projects and research grants

- Co-PI, Robot Application Development and Operating Environment, A*STAR Robotic Programme, September 2013 – August 2016, \$Z1
- PI, I²R iModel CORE project, April 2012 – March 2014, \$Z2
- Co-PI, Graphics Joint Lab, I²R-SoC, NUS, April 2010 – July 2013, \$Z3
- PI, I²R ISGE project, P3DES, April 2007 – March 2010, \$Z4
- Co-PI, A*STAR SpADE: a Spatio-temporal Autonomic Database Engine for location-based services, School of Computing, NUS, April 2005 – December 2006, \$Z5
- PI, Stochastic Paintbrush Image Transformation, School of Computing, NUS, November 2000 – February 2005, \$Z6
- Co-PI, Watermarking of 3D Volume Data, School of Computing, NUS, May 2001 – April 2003, \$Z7
- PI, Reconstruction of 3-D Objects from Video Sequences, School of Computing, NUS, November 1998 – June 2002, \$Z8

List of collaborators

- A*STAR: Haizhou Li, Bin Ma, Minghui Dong, Rafael E. Banchs, Susanto Rahardja, Keng Peng Tee, Ching Ling Chin, Wee Teck Fong, Ee Ping Ong, Farzam Farbiz, Arthur Niswar, Hong Thai Nguyen, Ishtiaq Rasool Khan, Alex Yong Sang Chia
- NUS: Tiow Seng Tan, Beng Chin Ooi, Mohan S, Kankanhalli, Kian-Lee Tan, Wee Kheng Leow, Ee-Chien Chang, Jason Chionh, Lidan Shou, Haihong Zhang, Hua Lu, Xuetao Li

Technical licensing

- Ong EP, Nguyen HT, Niswar A, Huang Z, Rahardja S, Tng TH, 3D face modeling technology, TLA/20120228/045, ETPL, A*STAR.

List of granted patents

- Li R, Tan B H, Huang Z., Yau W Y, High Accuracy Trajectory Tracking Method for Mobile Robot Manipulator Systems , Primary, Singapore, 2015.
- Ong EP, Nguyen HT, Niswar A, Huang Z, Rahardja S, A method of 3D face synthesis; and a system thereof , Primary, Singapore 2015.
- Leow W. K., Huang Z., Zhou L., and Atmosukarto I., Frontier Advancing Polygonization. US 7,091,969, granted 15 Aug 2006.
- Huang Z, Tan T S, Wong T W, Li X, Method and apparatus for generating atomic parts of graphic representation through skeletonization for interactive visualization applications, United States Patents, 6,825,839, granted 30 Nov 2004.

List of awards

- FINALIST of World Technology Summit & Awards (Entertainment), 2010
- Bronze, National Science and Technology Progress Award, 1992
- Tsinghua 12.9 Distinguished Young Teacher Award, 1989

Research Area and Technical Contributions

1. **Human-robot interface:** developed and published the novel algorithms robotic control and human-robot interface [Tee et al and Zhou et al HAI 2016, Li et al. IROS 2015, Xu et al International Journal of Social Robotics 2014, Tee et al. IROS 2014, Tee et al Journal Humanoid Robotics 2012]. The IROS 2015 paper was featured in A*STAR Research Magazine, Issue 3, April-June 2016. Expertise in ROS environment for software design and development, e.g., robot perception, mapping, localization and navigation (SLAM) and control.
2. **GPU based computational geometry:** developed and published four novel algorithms to construct the 2D Delaunay triangulation, 2D regular triangulation, 2D constrained Delaunay triangulation, and 3D Delaunay triangulation efficiently on the GPU [Gao et al ACM Trans. Math. Softw 2013, Gao et al. I3D 2013, I3D 2011]. Our algorithms provide a high level of fine-grained parallelism during execution, while are also theoretically proven to be correct. Our implementations on the GPU are robust to numerical error and geometric degeneracy; and achieve more than an order of magnitude of speedup when compared to other popular CPU implementations, for both synthetic and real-world inputs.
3. **Computer Vision and Machine Learning:** collaborated with colleagues and PhD students to develop object tracking and classification techniques based including using a special type of artificial neural networks autoassociators [Gupta et al ACM MM 2014, Zhang et al CVPR 2005, Zhang at al IEEE Trans Systems, Man, and Cybernetics 2005, Yu et al CVPR 2003, Chang et al ACM Multimedia System 2003].
4. **Human character animation:** a new directed bipartite graph and optimization method in the motion-captured based animation framework to achieve real-time realistic animation of tennis player [Song at al. IEICE Trans on Information and Systems 2012], [Chin and Huang Apsipa 2010, Liew at al. Computer Animation and Virtual Worlds 2009]. My PhD work in this topic including [Huang et al. CGI 1995, Boulic et al. Comput Graph Forum 1995 (1), Boulic et al. Computers & Graphics 1995(2)].
5. **Multi-disciplinary research (database techniques and computer graphics):** Integration of visual and spatial information in a new data model and method that outperformed literature of the art of real time rendering [Shou et al. VLDB 2001], [Shou et al. IEEE Trans on Knowledge and Data Engineering 2004], [Huang et al. IEEE Trans on Knowledge and Data Engineering 2006], [Huang et al. ICDE 2006], [Goh et al. VLDB Journal 2006], [Guo et al. SIGMOD Record 2006].
6. **3D Hair modeling, animation and rendering:** model the hairs by 2D strips in freeform surfaces and achieved 3D visual realism by texture mapping. Modeling and animation in 2D

outperformed all the methods that hairs directly modeled in 3D [Koh and Huang EG CAS 2000], [Koh and Huang SIGGRAPH 2000]. The customization of the work is [Yang and Huang 02, Liang and Huang 03].

7. **Virtual Reality and Human-Computer/Robot Interaction:** Devised and developed novel natural interface using voice, gesture, face, position detection and tracking for realtime simulation and robot control [Tee et al. IROS 2014, Xu et al. International Journal of Social Robotics, Yan et al. iHAI 2013, Fong et al. SIGGRAPH 2012, Tee et al, International Journal of Humanoid Robotics 2012], FINALIST of World Technology Summit & Awards (Entertainment), USA, 2010 <http://www.wtn.net/>.
8. **Computer Aided Geometry Design:** Devised and developed novel modeling and rendering methods and system of 3D Geometric Modeling Systems (GEMS) with technical contribution of Boolean operation in continuous space, rapid scanline and spatial subdivision rendering methods as written in my MEng (1988) and BEng (1986) thesis, Tsinghua University. Bronze, National Science and Technology Progress Award, China, 1992.

Teaching Experiences

- Taught graduate and undergraduate modules in computer graphics and interactive techniques, visualization, data structures and algorithms, programming languages in NUS (Singapore MIT alliance, School of Computing, Faculty of Science, Faculty of Engineering, Business School) since 1997.
 - CS3242, 3D Modeling and Animation, NUS, January – April, 2017
 - CS1010, Programming Methodology, NUS, August – November, 2015
 - The modules he taught include: cs3242, cs4342 (2012-2013), cs3230 , cs1101 (2006-2007), sma5507 , cs1102c , cs3241 (2005-2006), sma5507 , cs1102c , cs3241 (2004-2005), sma5507 , cs4247 , cs1102y (2003-2004), cs4247 , cs1102 (2002-2003), cs1102, cs4247, mfe5008 (2001-2002), cs3246 , cz3204 , mfe5008 (200-2001), mfe5008, cs3246, cz3204 (1999-2000), cz3204 , cs4240 (1998-1999), cz3204 , ic52a3 (1997-1998)
- Can teach other computer science modules such as compilers, assembly language, operating system and computer architecture.
- Supervised various level and types of the student projects.

Technical Services

Journals and conferences

- Editorial board member of the Journal of Computer-Aided Design & Computer Graphics, China (计算机辅助设计图形与图形学学报)
- Publication co-chair of ISCSLP 2014
- Sponsorship chair of ACM SIGGRAPH Asia 2012
- Track chair of Apsipa 2014, 2010
- PC co-chair of ACM VRCAI 2008
- Local Organizing Chair of IEEE VR 2011
- TPC member of conferences including CGI (2005, 2008, 2011, 2012, 2013, 2014, 2015), Apsipa (2011, 2012, 2014), ICME (2011, 2012, 2013, 2014), PG (2003 and 2005), ACM VRCAI (2009, 2010, 2011), ICCA 2002, VRCIA 2006, ChinaGraph (2002, 2004, 2006), IEEE CAD/Graphics (2003, 2005, 2009), ICEC 2007, ICIP 2004, MMM 2006, PRICAI 2006, VSMM (2006 and 2009) , DASFAA 2005, CoMoGIS (2005, 2006), IEE Mobility Conference 2006, and APWeb 2003

Memberships

- IEEE (2001 – Present), Senior Member (August 2012 - Present)
- ACM (2005 – Present), Senior Member (January 2013 - Present)
- ACM SIGGRAPH (2005 – Present), SIGMOD (2013 - Present)
- IEICE (2011 – Present)
- APISPA (2011 – Present)
- ISCA (2014 – Present)
- Singapore ACM SIGGRAPH Chapter (1999 – 2009), Vice-President (2009 – 2013), Membership Chair (2013 - 2015), Chair (2015 – Present)

Committee

- Chair, Social Committee, I²R, A*STAR, 2011
- EXCO (representing Assistant Professors), School of Computing, NUS, 2003-2004
- Postgraduate Study Programme Committee, School of Computing, NUS, 2000-2006

Publications

Journals:

1. Qianli Xu, Jamie SL Ng, Odelia YL Tan, Zhiyong Huang, TCB Tay, T Park, Methodological Issues in Scenario-based Evaluation of Human-Robot Interactions, *International Journal of Social Robotics*, 2014.
2. Qianli Xu, Jamie SL Ng, Odelia YL Tan, Zhiyong Huang, Needs and Attitudes of Singaporeans towards Home Service Robots – A Multi-generational Perspective, *Universal Access in the Information Society*, 2014.
3. Mingcen Gao, Thanh-Tung Cao, Ashwin Nanjappa, Tiow Seng Tan, Zhiyong Huang: gHull: A GPU algorithm for 3D convex hull. *ACM Trans. Math. Softw.* 40(1): 3 (2013)
4. Peng Song, Shuhong Xu, Wee Teck Fong, Ching-Ling Chin, Gim Guan Chua, Zhiyong Huang: An Immersive VR System for Sports Education. *IEICE Transactions* 95-D(5): 1324-1331 (2012)
5. Keng Peng Tee, Rui Yan, Yuanwei Chua, Zhiyong Huang, Haizhou Li: Modular IK: a Robust Inverse Kinematic Algorithm for Gesture Imitation in an Upper-Body Humanoid Robot. *I. J. Humanoid Robotics* 9(2) (2012)
6. Pak-San Liew, Ching-Ling Chin, Zhiyong Huang: Development of a computational cognitive architecture for intelligent virtual character. *Journal of Visualization and Computer Animation* 20(2-3): 257-266 (2009)
7. Akanksha, Zhiyong Huang, B. Prabhakaran, Conrado R. Ruiz Jr.: Animation toolkit based on a database approach for reusing motions and models. *Multimedia Tools Appl.* 32(3): 293-327 (2007)
8. Shuqiao Guo, Zhiyong Huang, H. V. Jagadish, Beng Chin Ooi, Zhenjie Zhang: Relaxed space bounding for moving objects: a case for the buddy tree. *SIGMOD Record* 35(4): 24-29 (2006)
9. Zhiyong Huang, Hua Lu, Beng Chin Ooi, Anthony K. H. Tung: Continuous Skyline Queries for Moving Objects. *IEEE Trans. Knowl. Data Eng.* 18(12): 1645-1658 (2006)
10. Chong Leng Goh, Yanfeng Shu, Zhiyong Huang, Beng Chin Ooi: Dynamic buffer management with extensible replacement policies. *VLDB J.* 15(2): 99-120 (2006)

11. Chern-Hooi Chionh, Zhiyong Huang, Kian-Lee Tan, Zhen Yao: Towards Scaleable Protein Structure Comparison and Database Search. *International Journal on Artificial Intelligence Tools* 14(5): 827-848 (2005)
12. Haihong Zhang, Weimin Huang, Zhiyong Huang, Bailing Zhang: A kernel autoassociator approach to pattern classification. *IEEE Transactions on Systems, Man, and Cybernetics, Part B* 35(3): 593-606 (2005)
13. Hang Yu, Ee-Chien Chang, Zhiyong Huang, Zhijian Zheng: Fast rendering of foveated volumes in wavelet-based representation. *The Visual Computer* 21(8-10): 735-744 (2005)
14. Lidan Shou, Zhiyong Huang, Kian-Lee Tan: The Hierarchical Degree-of-Visibility Tree. *IEEE Trans. Knowl. Data Eng.* 16(11): 1357-1369 (2004)
15. Akanksha, Zhiyong Huang, B. Prabhakaran, Conrado R. Ruiz Jr.: Visualizing Animation Databases. *International Journal of Software Engineering and Knowledge Engineering* 13(1): 1-25 (2003)
16. Ee-Chien Chang, Mohan S. Kankanhalli, Xin Guan, Zhiyong Huang, Yinghui Wu: Robust image authentication using content based compression. *Multimedia Syst.* 9(2): 121-130 (2003)
17. Ronan Boulic, Tolga K. Capin, Zhiyong Huang, Prem Kalra, B. Linternann, Nadia Magnenat-Thalmann, Laurent Moccozet, Tom Molet, Igor S. Pandzic, Kurt Saar, Alfred A. Schmitt, Jianhua Shen, Daniel Thalmann: The HUMANOID Environment for Interactive Animation of Multiple Deformable Human Characters. *Comput. Graph. Forum* 14(3): 337-348 (1995)
18. Ronan Boulic, Zhiyong Huang, Nadia Magnenat-Thalmann, Daniel Thalmann: Goal-oriented design and correction of articulated figure motion with the TRACK system. *Computers & Graphics* 18(4): 443-452 (1994)

Conferences (selected):

1. Keng Peng Tee, Rui Yan, Yuanwei Chua and Zhiyong Huang, Tracking Human Gestures under Field-of-View Constraints, the 4th annual International Conference on Human-Agent Interaction (HAI), 2016.
2. Longjiang Zhou, Keng Peng Tee and Zhiyong Huang, Simulation of a Tele-operated Task under Human-Robot Shared Control, the 4th annual International Conference on Human-Agent Interaction (HAI), 2016.
3. Longjiang Zhou, Renjun Li, Kam Pheng Ng, Aditya Narayanamoorthy, Zhiyong Huang, A Robotics Simulator Platform for RADOE, IEEE International Conference on Control, Automation and Robotics (ICCAR), 2016.
4. Renjun Li, Zhiyong Huang, E Kurniawan, Chin Keong Ho, AuRoSS: an Autonomous Robotic Shelf Scanning System, Regular Paper, IEEE International Conference on Intelligent Robots and Systems (IROS), 2015.
5. Aditya Narayanamoorthy, Renjun Li, Zhiyong Huang, Creating ROS Launch Files Using A Visual Programming Interface, IEEE International Conference on Cybernetics and Intelligent Systems (CIS) and IEEE Conference on Robotics, Automation and Mechatronics (RAM) (CIS-RAM), 2015. Best Paper Award – Finalist.

6. Keng Peng Tee, Rui Yan, Yuanwei Chua, Zhiyong Huang and Sonchaya Liemhetcharat, Gesture-Based Attention Direction for a Telepresence Robot: Design and Experimental Study, Regular Paper, IEEE International Conference on Intelligent Robots and Systems (IROS), 2014.
7. Mingcen Gao, Thanh-Tung Cao, Tiow Seng Tan, Zhiyong Huang, Flip-flop: convex hull construction via star-shaped polyhedron in 3D. I3D 2013: 45-54.
8. Raj Kumar Gupta, Alex Yong Sang Chia, Deepu Rajan, Ee Sin Ng, Zhiyong Huang, Image colorization using similar images. ACM Multimedia 2012: 369-378.
9. Wee Teck Fong, Ching-Ling Chin, Farzam Farbiz, Zhiyong Huang, Ungrounded haptic rendering device for torque simulation in virtual tennis. SIGGRAPH Emerging Technologies 2012: 26.
10. Wee Teck Fong, Zhiyong Huang, Farzam Farbiz, Ching-Ling Chin, Susanto Rahardja, Ungrounded Handheld Device for simulating High-Forces of ball impacts in Virtual Tennis, ACM SIGGRAPH ASIA Art Gallery & Emerging Technologies 2011.
11. Wee Teck Fong, Jingting Cher, Farzam Farbiz, Zhiyong Huang, Variable Frequency 60-g Haptic Renderer for Virtual Tennis Simulation, ACM SIGGRAPH ASIA 2011 Posters.
12. Hong Thai Nguyen , Ee Ping Ong , Zhiyong Huang, Fast and Automatic 3D Full Head Synthesis using iPhone, ACM SIGGRAPH ASIA 2011 Technical Sketches.
13. Miaolong Yuan, Ishtiaq Rasool Khan, Farzam Farbiz, Zhiyong Huang and Arthur Niswar, Augmented Reality glasses try-on (demo), IEEE Symposium on Mixed and Augmented Reality (ISMAR), 2011.
14. Mingcen Gao, Thanh-Tung Cao, Tiow Seng Tan, Zhiyong Huang, gHull: A Three-dimensional Convex Hull Algorithm for Graphics Hardware, i3D 2011 Poster.
15. Arthur Niswar, Ee Ping Ong, Zhiyong Huang, Pose-Invariant 3D Face Reconstruction from a Single Image, ACM SIGGRAPH ASIA 2010 Sketches.
16. Wee Teck Fong , Jingting Cher, Farzam Farbiz, Zhiyong Huang, Sub-100 grams ungrounded haptics device for 14-g impact simulation, ACM SIGGRAPH ASIA 2010 Sketches.
17. Susanto Rahardja , Farzam Farbiz, Corey Manders, Zhiyong Huang, Jamie Suat Ling Ng, Khan I. R., Ong E. P., Song P., Eye HDR: gaze-adaptive system for displaying high-dynamic-range images, ACM SIGGRAPH ASIA Art Gallery & Emerging Technologies 2009: 68.
18. Ishtiaq Rasool Khan, Zhiyong Huang, Farzam Farbiz, Corey Manders, Susanto Rahardja, HVS based histogram adjustment for tone mapping, ACM SIGGRAPH ASIA 2009 Sketches. SESSION: Image & Video Processing. Article No.: 29.
19. Beng Chin Ooi, Zhiyong Huang, Dan Lin, Hua Lu, Linhao Xu, Adapting Relational Database Engine to Accommodate Moving Objects in SpADE. ICDE 2007: 1505-1506.
20. Jia Xu and Zhiyong Huang, HOPI: A Novel High Order Parametric Interpolation in 2D, Dieter Fellner, Charles Hansen (Eds.), Eurographics 2006 (short paper), pp. 99-102.
21. Zhiyong Huang, Christian S. Jensen, Hua Lu, Beng Chin Ooi, Skyline queries against mobile lightweight devices in MANETs, The 22nd International Conference on Data Engineering (ICDE 2006):66.

22. Haihong Zhang, Weimin Huang, Zhiyong Huang, Liyuan Li, Affine Object Tracking with Kernel-based Spatial-Color Representation , IEEE Conf. on Computer Vision and Pattern Recognition (CVPR 2005 Poster), I, pp. 293-300.
23. Hongga Li, Hua Lu, Bo Huang, Zhiyong Huang, Two Ellipse Based Pruning Methods for Group Nearest Neighbor Queries , The 13th ACM International Symposium on Advances in Geographic Information Systems, 2005, pp. 192-199.
24. Bo Huang, Zhiyong Huang, Hongga Li, Dan Lin, Hua Lu, Yaxiao Song, ITQS: An Integrated Transport Query System , ACM SIGMOD 2004 demo paper, 951 - 952.
25. Meng Yu, Indriyati Atmosukarto, Wee Keng Leow, Zhiyong Huang, Rong Xu, 3D Model Retrieval With Morphing-Based Geometric and Topological Feature Maps. In Proc. IEEE Conf. on Computer Vision and Pattern Recognition (CVPR 2003 Poster), II 656-661.
26. Lidan Shou, Zhiyong Huang and Kian-Lee Tan, HDoV-tree: The Structure, The Storage, The Speed , The 19th International Conference on Data Engineering (ICDE 2003), pp. 557-568.
27. Mohan S Kankanhalli, Ee-Chien Chang, Xin Guan, Zhiyong Huang and Yinghui Wu, Authentication of Volume Data Using Wavelet-Based Foveation. EG MM 2001, 119-130.
28. Xuetao Li, Tong Wing Woon, Tiow Seng Tan, Zhiyong Huang, Decomposing Polygon Meshes for Interactive Applications. The 2001 ACM Symposium on Interactive 3D Graphics, March 19-21, North Carolina, USA, pp.35-42, pp. 243.
29. Lidan Shou, Jason C. H. Chionh, Zhiyong Huang, Yixin Ruan, and Kian-Lee Tan, Walking Through A Very Large Virtual Environment In Real-time. VLDB 2001, pp. 401-410.
30. Lidan Shou, Jason C. H. Chionh, Kian-Lee Tan, Yixin Ruan, and Zhiyong Huang, REVIEW: A Real Time Virtual Walkthrough System . ACM SIGMOD 2001 demo paper, pp. 601.
31. Yinghui Wu, Xin Guan, Mohan S. Kankanhalli, Zhiyong Huang, Robust Invisible Watermarking of Volume Data. SIGGRAPH 2000 Sketches & Applications, pp. 252.
32. Chuan Koon Koh and Zhiyong Huang, A Simple Physics Model to Animate Human Hair Modeled in 2D Strips in Real Time , EG CAS 2001, pp. 127-138.
33. Chuan Koon Koh and Zhiyong Huang, Real-Time Human Hair Modeling and Animation. SIGGRAPH 2000 Sketches & Applications, pp. 248.
34. Chuan Koon Koh and Zhiyong Huang, Real-Time Animation of Human Hair Modeled in Strip, EG CAS 2000, pp. 101-112.
35. Sujin Liu and Zhiyong Huang, Interactive 3D Modeling Using Only One Image , ACM Symposium of Virtual Reality Software Techniques (VRST 2000), pp. 49-54.
36. Zhiyong Huang, Ronan Boulic, Nadia Magnenat-Thalmann, Danie Thalmann, A multi-sensor approach for grasping and 3D interaction , Computer Graphics International (CGI 1995), pp. 235-253.