

ILMI YOON

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PROFESSIONAL EDUCATIONS

- University of Southern California, Computer Science Ph.D. 2000
Advisor: Ulrich Neumann (Computer Science, University of Southern California)
Thesis Title: Web-based rendering with IBRAC (Image-based Rendering Acceleration and Compression)
- University of Southern California, Computer Science M.S. 1997
Yonsei University (Seoul, Korea), Computer Science B.S. 1992

APPOINTMENTS

- 2001, Spring – present: **Assistant Professor of Computer Science**
San Francisco State University San Francisco, CA
- 2000, Fall: **Lecturer** of CS 557, Programming the WWW
USC/Computer Science dept. Los Angeles, CA
- 1996 – Sept, 2000: **Research Assistant (supported by National Science Foundation)**
Developed IBRAC (Image-based Rendering Acceleration and Compression): IBRAC utilizes previously rendered images to accelerate the rendering process and compression of new image. It is attractive for remote rendering applications where the client has limited rendering resources and network bandwidth such as web, wireless or palm top applications.
USC/IMSC (Integrated Media Systems Center) Los Angeles, CA
- 1998, Fall: **Teaching Assistant** of CS 351, Programming & Multimedia on the WWW
USC/Computer Science dept. Los Angeles, CA
- 1995 (Jun – Dec): **Intern, JPL NASA**
Participated in development of Paravox (Ocean/Atmosphere visualization program) Worked with Dr. Scott Whitman & Dr. Peggy Li <peggy@spartan.jpl.nasa.gov>
Cray/JPL (Jet Propulsion Laboratory, NASA) Pasadena, CA
- 1992 (Jan – Oct): **Assistant programmer, IBM Korea**
Participated in development of DSS/400 (Decision support system) on AS/400
System design and graphics user interface. Seoul, KOREA

FELLOWSHIPS, SCHOLARSHIPS AND AWARDS

SFSU, Center of Computing for Life Science, Mini-grant award for Spring 2006
SFSU, Center of Enhanced Teaching, Spring, 2005
SFSU, Summer Stipend Award, Summer, 2005
SFSU, Affirmative Action Award, Spring, 2004
SFSU, Summer Stipend Award, Summer, 2003
SFSU, MiniGrant Award, Spring 2003
University of Southern California, Academic Achievement Award, 2000
University of Southern California, Academic Achievement Award, 1996

GRANT

1. “Knowledge Base and Semantic Web Informatics for Species' Properties, Interactions, and Spatial Distributions” Jul 2006, NSF DBI- 0543614 (Pending, PI: Dr. Neo Martinez, \$2.4M)

2. "Webs on the Web: Internet Database, Analysis, and Visualization of Ecological Networks", Jul 2002, National Science Foundation Proposal Number: 0234980 – Granted, awarded Feb., 11, 2003 through Jan 2006. NSF DBI-0234980, (PI: Dr. Neo Martinez, \$1.5M)
3. "Web Interactive Computational Environment for Biomedical Sciences", Feb 2006, NIH PAR-o3-106, R21/R33 (PI: Dr. Sergio Aragon, \$905,000) (Not-funded)
4. "AIMS: Attract, Inspire, Mentor, Succeed", July 2006, NSF (PI: Dr. Dragutin Petkovic) (Pending)

PUBLICATIONS (PEER-REVIEWED CONFERENCE/JOURNAL PAPER)

1. Jun Murakawa, Ilmi Yoon, Tracie Hong, and Edward Lank, "Parts, Image, and Sketch based 3D Modeling Method," to appear EUROGRAPHICS Workshop on Sketch-Based Interfaces and Modeling (Sept. 2006)
2. Berndt Jung, Ilmi Yoon, Hendra Lim, F.A.Ramirez-Weber, Dragutin Petkovic, „Annotizer: User-Friendly WWW Annotation System for Collaboration in Research and Education Environments,“ IASTED Web Technologies, Applications, and Services (WTAS), J.T. Yao, ISBN 0-88986-575-2 pp. XXX-XXX (2006)
3. Eun-Young Kang and Ilmi Yoon, "Smooth Scene Transition for Virtual Tour on the World Wide Web", IEEE, International Conference of Computational Intelligence and Multimedia Applications (ICCIMA), H. Selvaraj, B. Verma e A. de Carvalho, ISBN 0-7695-2358-7, pp.219-224 (2005).
4. Eun-Young Kang and Ilmi Yoon, "Scene Transition based on Image Registration for Web-based Virtual Tour", IASTED Internet and Multimedia Systems, and Applications (IMSA), M.H. Hamza, ISBN 0-88986-484-5, pp.41-46 (2005).
5. Alan Shimoide, Luping Lin, Tracie-Lynne Hong, Sergio Aragon and Ilmi Yoon, "Easy and Effective Computing Environment on the WWW", International Conferences on Internet Computing, Hamid R. Arabnia, ISBN 1-932415-69-6, pp 94 ~ 98 (2005).
6. Alan Shimoide, Ilmi Yoon, Megumi Fuse, Holly Beal, and Rahul Singh, "Automated Behavioral Phenotype Detection and Analysis", IEEE Canadian Conference on Computer and Robot Vision, pp 370 ~ 377 (2005).
7. Ilmi Yoon, Rich Williams, Sanghyuk Yoon, Jennifer Dunne, and Neo Martinez, "Interactive 3D Visualization of Highly Connected Ecological Networks on the WWW," 20th ACM Symposium on Applied Computing, Lorie M. Liebrock, ISBN1-58113-964-0, pp 1207~1217 (2005).
8. John Roberts, Ilmi Yoon, Sanghyuk Yoon, and Ed Lank, "An Interface Markup Language for Web3D", International Conference on Software Engineering Applications, M.H. Hamza, ISBN 0-88986-427-6, pp. 518-522 (2004)
9. Ilmi Yoon, Rich Williams, Sanghyuk Yoon, Jennifer Dunne, and Neo Martinez, "3D Visualization and Analysis of Ecological Network," International Conference on Computer Graphics and Imaging, M.H. Hamza, ISBN 0-88986-001-7, pp 224-229 (2004).
10. Ilmi Yoon, Rich Williams, Eli Levine, Sanghyuk Yoon, Jennifer Dunne, Neo Martinez, "Webs on the Web (WOW): 3D Visualization of Ecological Networks on the WWW for Collaborative Research and Education," Robert F. Erbacher, Philip C. Chen, Jonathan C. Roberts, Matti T. Grýhn, Katy Býrner, SPIE 5295, 124 (2004).
11. Sanghyuk Yoon, Hai-jung Chen, Tom Hsu and Ilmi Yoon, "Web-based Virtual Tour Using The Tour Into The Picture (TIP) Technique," Proceedings of the 9th International Conference on Distributed Multimedia Systems, Sep. 2003, Miami, FL. pp. 105 ~ 108.
12. Ilmi Yoon and Ulrich Neumann, "Image-Assisted Visualizations over Networks," Journal of Electronic Imaging, 12(2), 355-363 (2003).
13. Ilmi Yoon and Ulrich Neumann, "Web-based Remote Rendering with IBRAC (Image-based rendering acceleration and compression)", Eurographics 2000, 19 (3), C321-330, (2000).
14. Ilmi Yoon and Ulrich Neumann, "Compression of Computer Graphics Images with Image-Based Rendering", Dilip D. Kandlur, Kevin Jeffay, Timothy Roscoe, SPIE 3654, 66 (1998)

15. Ilmi Yoon, Demers, J., Kim, T.Y. and Neumann, U., "Accelerating Volume Visualization by Exploiting Temporal Coherence", Proc. IEEE Visualization, LBHT, pp 21-24 (1997)

Other Publications (Full papers reviewed based on abstract)

1. Jerry Chen, Ilmi Yoon and Wes Bethel, "Interactive Internet Delivery of Scientific Visualization via Structured Pre-rendered Imagery," Simone Santini, Raimondo Schettini, Theo Gevers, SPIE 6061, 60610A (2005)
2. Alan Shimoide, Luping Lin, Tracie Hong, Ilmi Yoon and Sergio Aragon, "Web-based Hydrodynamics Computing", Eschbach, Reiner; Marcu, Gabriel G., SPIE, 5670, 232 (2004)
3. Ilmi Yoon, Andrew Kang, Sanghyuk Yoon and John Roberts, "Easy and Effective Virtual Tour on the WWW", Eschbach, Reiner; Marcu, Gabriel G., SPIE, 5670, 183 (2004).
4. Sanghyuk Yoon, Hai-jung Chen, Tom Hsu and Ilmi Yoon, "Real Time Interactive Virtual Tour on the WWW", Simone Santini, Raimondo Schettini, SPIE 5304, 81 (2003).

Posters

1. Vaughan A, R Singh, A Shimoide, I Yoon, M Fuse (2005). "EigenPhenotypes: Towards an Algorithmic Framework for Phenotype Discovery," IEEE CSB Conference, Stanford August 2005.
2. Ilmi Yoon, Rich Williams, Eli Levine, Sanghyuk Yoon, Jennifer Dunne, Neo Martinez, "3D VISUALIZATION OF ECOLOGICAL NETWORKS ON THE WWW," IEEE Visualization 2003.

Master's Thesis Chair:

1. Tracie-Lynne Hong, "3D Modeling Through Generic Part Morphing and Image Matching," July 2006
2. Jun Murakawa, "Parts, Image, and Sketch Based 3D Modeling Method," May 2005
3. Sachiko Halper, "Online Teaching Component Involving a PowerPoint Plug-in and a Server," May 2006
4. Gauri Deshmukh, "Gauri Deshmukh," May 2005.
5. Chatchawan Chansorn, "3D Modeling Techniques Based on 2D Image Manipulation," May 2005.
6. Alan Shimoide, "Image Analysis to Track the Movement of Spiracles in the Tobacco Hornworm," May 2005.
7. Jaime G. Ruiz, "3D Species Modeling Tools for Ecologists," May 2005.
8. Mayuresh Dalal, "Novel View Generation Using Micro-Surfaces And Layered Depth Pixels," Sept. 2004.
9. Eli Levine, "Webs on the Web: Storage and Visualization of Ecological Networks using FoodWebML," May 2003.
10. Hai-jung Chen, "Interactive Virtual Tour in World Wide Web Using Image-Based Rendering," May 2003.
12. Aalap Parikh, "Interoperability and Maturity Assessment of XML Web Services Platforms," Dec. 2002.
13. Tom Hsu, "The Virtual Tour Project," May 2002.

RESEARCH ASSOCIATES / RESEARCH ASSISTANTS / GRADUATE STUDENTS

Dr. Rich Williams, Sanghyuk Yoon, Tracie Hong, Jun Murakawa, Amar Shah, Scott Bishop, Jerry Chen, Bernt Jung, Hendra Lim, Bruce Gotlieb, Sachiko Halper.

Master's Thesis Committee:

1. John Roberts, "Browsing in Large Time-Dependent Datasets," May 2005.
2. Chris Lacy, "XMLVM for C++ with CORBA," May 2005.
3. Keith Deming, "Mode Selection Techniques for Pen Input Systems," Feb. 2005.

4. Siddharth Desai, "Making X Window Clients Accessible Over the Internet," May 2005.
5. Arash Farahmand, "Windowing Protocol Visualization," May 2004.
6. Shahid Khatri, "Creating Context Aware Distributed Applications for a Dynamic Collaborative Environment," August 2004.
7. Amy Ichnowski, "The Lecturer's Assistant: Information Sharing and Personalization in a Smart Classroom," May 2004.
8. Stelios Christofides, "Evaluation and Performance Comparison of the Java (J2SE) and C#.NET Environments for Client/Desktop Applications," April 2004.
9. Sakir Murat Cengiz, "A Comparison of Object Oriented and Procedural Workloads," April 2004.
10. Son H. Phan, "Focus+Context Sketching on a PDA," December 2003.
11. Ming Zhang, "DBMap: a Treemap-Based Database Exploration and Visualization Framework for Neurological Data Warehouse," May 2003.
12. Chao-Hsueh Cheng, "A Java Program to Transfer Data Between Spreadsheet and XML," May 2003.
13. Chao Y. Liang, "ER Tools Extension: Data Transfer Between XML and ODMG Database," May 2003.
14. Cheng-Da Liu, "Representing ER Schema in 3D mode for the ER Design Tool," April 2003.
15. Min Zhai, "Static In-memory Cache," April '02.
16. Abdulah Yahya , "A Java Tool to Map ER Schemas with constraints into ODMG objects," May '02
17. Qun Zhang , "MPEG Video Bandwidth Characteristics," May '02
18. Metin Kadaster "A Java-Based System Evaluation Tool," May '02

Courses taught at SFSU

CSc210	Introduction to Computer Programming
CSc310 & CSc311	Assembly Language Programming and Introduction to Computer Organization & Programming and Debugging Laboratory
CSc413	Software Development
CSc667	Internet Application Design and Development
CSc830	Advanced Computer Graphics
CSc890	Web3D System Design and Development

Professional Societies

Member of Association for Computing Machinery(ACM).
 Member of Institute of Electrical and Electronics Engineers(IEEE).
 Member of International Society of Optical Engineering (SPIE)
 Member of IEEE Women in Engineering
 Member of Web3D Consortium.
 Member of Technical Committee of International Association for Sciences and Technology for Development (IASTED).
 Member of International Journal of Software Engineering and Knowledge Engineering (IJSEKE).

Professional Leadership

1. Reviewer of ACM SIGGRAPH (2006)
2. Reviewer of IEEE Visualization (1998 – 2006)
3. Reviewer of ACM Symposium of Applied Computing (2004)
4. Technical Committee member of Computer Graphics Program at Technical Committee of International Association for Sciences and Technology for Development (IASTED) (2002 – 2005)

5. Reviewer of Eurographics Hardware Workshop (1998 – 2000)
6. Reviewed a book “CS1 in C++ book.” By Forouzan & Gilberg. from Brooks & Cole Publishing (Dec. 2001)

Active Research Topics and collaborators/students

1. Webs on the Web: Internet Database, Analysis, and Visualization of Ecological Networks – Tracie Hong, Dr. Rich Williams (Research Scientist), Sanghyuk Yoon (Research staff) @ <http://www.foodwebs.org>
2. Graphics User Interface Markup Language (GUIML) – John Roberts, Sanghyuk Yoon (Research staff, Rocky Mountain Biological Laboratory) @ <http://unicorn.sfsu.edu/~jrob/research/GUIML>
3. Quantitative Analysis and Real-time Visualization of Neural Signaling for Neurobiology Research by Motion Tracking of Tobacco Hornworm – Alan Shimoide, Dr. Megumi Fuse (Biology, SFSU)
4. Web-based Hydrodynamics Computation – Alan Shimoide, Tracie Hong, Luping May, Dr. Sergio Aragon (Biochemistry, SFSU) @ <http://gibbs.sfsu.edu/index.jsp>
5. Effective Image-based rendering on the WWW for extremely large data sets – Chi-Li Chen, Wes Bethel (Chief Scientist, LBL)
6. Smooth and Controlled Animation on Progressive Mesh – Bruce Gottlieb.
7. Interactive Online Class System – Gauri Deshmukh.
8. Easy and Effective 3D modeling tools for Biologists – Chatchawan Chansorn, Jaime Ruiz, Jun Makamura. @ <http://jgruiz.dyndns.org/cgi-bin/trac.cgi>

Attendance at Professional Conferences

1. SIGGRAPH 2005 at July 2005 (Los Angeles, CA)
2. ACM Symposium of Applied Computing, March 2005, Santa Fe, NM.
3. Quarterly PEaCE (Pacific Ecoinformatics and Computational Ecology) Lab Seminar, Nov 2004.
4. SIGGRAPH 2004 at July 2004 (Los Angeles, CA)
5. Internet Imaging V, part of the IS&T/SPIE Symposium on Electronic Imaging 2004, 18-22 January 2004 in San Jose, CA USA
6. Distributed Multimedia Systems 2003 at September (Miami, FL)
7. Remote and Distributed Visualization (DiVA) Framework Workshop (September, 2003 at Emeryville, CA)
8. Inaugural Meeting of SIG CSBB at Stanford (August, 2003)
9. SIGGRAPH 2003 at July 2003 (San Diego, CA)
10. SIGGRAPH 2002 at July 2002 (San Antonio, TX)
11. Web3D Consortium member open meeting (May 2002, Santa Clara CA)
12. “Webs on the Web”, Santa Fe working group at April 2002 (Santa Fe, NM)
13. Web3D Consortium member open meeting (Jan 2002, Santa Clara CA)
14. Electronic Arts College Summit on Interactive Entertainment at Jan 2002 (Redwood City, CA)
15. Education Symposium this August 20, 2001 at Industrial Light and Magic (San Rafael, CA)
16. SIGGRAPH 2001 at Aug. 2001 (Los Angeles, CA)

Contribution to Campus

School - Research and Development Committee (01/02)
 Judge of COSE Student Project Showcase (May 2004)
 Judge of University selection for CSU research competition (May 2003)

Department - Lab Coordinator (2005), Lab Committee member (2001 - 2004)

Senior Advisor (2003 – 2005)

Graduate Program Committee member (2003 – 2004)

Sophomore and Junior Advisor (2002)

Hiring Dr. Ulrich Brose under NSF grant (Nov 2003 – May 2004)

Hiring Dr. Rich Williams under NSF grant (Dec 2004 – Nov 2006)

Contribution to Community

1. Speaker of Expanding Your Horizon (EYH) - Hands-on workshops for our Expanding Your Horizons Conference on October 23, 2004. Expanding Your Horizons (EYH) in Science and Mathematics is a Career Conference to Encourage 6th to 8th Grade Young Women in these fields.
2. Speaker of seminar series of Bridges to the Baccalaureate Program for CCSF Woman and Underrepresented Group. (Nov. 2003)
3. Served in the community project, “SBPP – ETP Pilot Project” (Summer 2003)
4. Served in the community project, “EBT Survey Project” (Fall 2002)
5. Joined in the community project, “The Virtual Tour” (Fall 2001 ~ present)
6. Co-hosted the CS graduation party, May 2001.