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

- 2007, Fall – present: **Associate Professor of Computer Science**
  San Francisco State University — San Francisco, CA
- 2001, Spring – 2007, Summer: **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, Summer Stipend Award, Summer, 2007
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 (AS PI/CO-PI)

1. "Semantic Web Informatics for Species in Space and Time" Sept. 2009 – Awarded (PI – Dr. Neo Martinez) Sept. 2009 – Aug. 2012, NSF DBI- 0543614 ($1.5M)

2. "Serious Game For School of Nursing" submitted to Microsoft E-Science Grant (Awarded, PI: Dragutin Pektovic, co-PI: Ilmi Yoon, $20K), Sept. 2006
3. "Parts, Image, and Sketch based 3D Modeling Method for Domain Experts" Microsoft E-Science Grant (Awarded, PI: Ilmi Yoon, $5K), Sept. 2006
4. "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)

PUBLICATIONS (JOURNAL PAPER)

1. Jerry Chen, Ilmi Yoon and Wes Bethel, "Interactive 3D Visualization on the WWW via Structured, Pre-rendered Multi-resolution Imagery" IEEE Transactions on Visualizations and Computer Graphics, Vol. 14 No. 2, March/April 2008, pp 302 – 312.
2. Ilmi Yoon and Ulrich Neumann, "Image-Assisted Visualizations over Networks," Journal of Electronic Imaging, Vol. 12 No. 2, pp. 355-363 (2003).

PUBLICATIONS (CONFERENCE PAPER) (* STUDENTS)

3. Arno Puder and Ilmi Yoon, "Smartphone Cross-Compilation Framework for Multiplayer Online Games," to appear International Conference on Mobile, Hybrid, and On-line Learning (Feb, 2010)
4. 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) [Acceptance rate = 30%]
5. 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. 113-118 (2006) [Acceptance rate: 34/102 = 33.3%]
6. 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). [Acceptance rate = 78%]
7. 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).
8. Alan Shimoide*, Luping Li*n, 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). [Acceptance rate = 30%]
9. 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). [Acceptance rate 80/115 = 70%]
10. 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). [Acceptance rate 278/764 = 36%]
11. 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)
12. Alan Shimoide*, Luping Lin*, Tracie Hong*, Ilmi Yoon and Sergio Aragon, "Web-based Hydrodynamics Computing", Eschbach, Reiner; Marcu, Gabriel G., SPIE, 5670, 232 (2004)
13. 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).

14. 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) [Acceptance rate = 45%]
15. 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).
16. 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). [Acceptance rate = 50%]
17. 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. [Acceptance rate = 50 %]
18. 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).
19. Ilmi Yoon and Ulrich Neumann, "Web-based Remote Rendering with IBRAC (Image-based rendering acceleration and compression)", Eurographics 2000, 19 (3), C321-330, (2000).
20. 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)
21. 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)

SELECTED 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.
3. K. Hervold*****, K. Laventall*****, A. Martin*****, B. Jung*****, J. Lemus*****, R. Kirkpatrick*****, D. Petkovic, I. Yoon, and F.A Ramirez-Weber, "The Hedgehog signaling pathway database as an online annotated resource for collaborations in research and education," THE 45TH AMERICAN SOCIETY FOR CELL BIOLOGY ANNUAL MEETING IN SAN FRANCISCO, CA, DECEMBER 10-14, 2005.

Other Presentations (* students)

1. Gutierrez A*, Shimoide A*, Ebanks T*, Salmon A*, Yoon I, Fuse M, "Videographic and electrophysiological analysis of ecdysis behaviors in the larvae and pupae of the tobacco hornworm," M*anduca sexta*. Society for Integrative and Comparative Biology, Orlando, FA. (2006)
2. Jun Murakawa, Tracie Hong, and Ilmi Yoon, "Parts, Image, and Sketch based 3D Modeling Method," COSE Student Project Showcase, SFSU, San Francisco, CA. (May 2006 – 4th place)
3. Gutierrez A*, Vaughan A, Shimoide A*, Yoon I, Singh R, Fuse M, "Video analysis of naturally-occuring and artificially-induced ecdysis behaviors in the tobacco hornworm," *Manduca sexta.* SACNAS, Denver, CO. (2005)
4. Gutierrez A*, Vaughan A, Shimoide A*, Yoon I, Singh R, Fuse M, "Video Analysis of ecdysis behaviors in the tobacco hornworm," *Manduca Sexta*. COSE Student Project Showcase, SFSU, San Francisco, CA.(2005)
5. Alan Shimoide*****, Megumi Fuse, and Ilmi Yoon "Image Analysis to Track the Movement of Spiracles in Tobacco Hornworm," COSE Student Project Showcase, SFSU, (2005) 1st pace awarded presentation.
6. Tracie Hong*****, Jun Murakawa***** and Ilmi Yoon, "3D Species for 3D Food webs Visualization," COSE Student Project Showcase, SFSU, (2005) 4st pace awarded presentation.

7. Gutierrez A*, Vaughan A, Shimoide A*, Yoon I, Singh R, Fuse M (2005). Video Analysis of ecdysis behaviors in the tobacco hornworm, *Manduca Sexta*. West Coast Biological Undergraduate Conference, University of Santa Clara, Santa Clara, CA.

COURSES TAUGHT AT SFSU

CSc210	Introduction to Computer Programming
CSc310 & CSc311	Assembly Language Programming and Introduction to Computer Organization & Programming and Debugging Laboratory
CSc313	Data Structure
CSc413	Software Development
CSc630	Introduction to Computer Graphics
CSc631/831	Multiplayer Game Design and Development
CSc667/867	Internet Application Design and Development
CSc830	Advanced Computer Graphics
CSc890	Web3D System Design and Development

PROGRAMMING LANGUAGES

C++, JAVA, Python, Tcl/TK

TOOLS

OpenGL, OpenGL Shading Language, Panda3D (Game Engine), OGRE (Graphics Engine), Blender, Maya, 3D Studio MAX (Modeling tool), Apache, Tomcat, MySQL

MASTER'S THESIS CHAIR

1. Zoran Milic, "Developing and Deploying a Prototype of Nursetown, a 3D Massively Multiplayer Online Role-Playing Game in Education," Aug. 2009.
2. Eric Gregory, "Learning Without Wires: Designing a Serious MMORPG for Science Education for Mobile Devices," May 2009.
3. Michael Scott Bishop "Motion Capture Data Transformation," Jul. 2008.
4. Supakit Kiatrungrit "Framework for Serious Game with Easily Pluggable Content," Dec. 2007.
5. Hendra Lim, "A Computer Vision-based Approach for Biological Phenotyping Using Joint Probability Distribution and ROI Hierarchy Approach," Mar. 2007.
6. Amar Shah, "Enhanced Interactive Online Classroom System with Automatic Video Indexing," Dec. 2006.
7. Tracie-Lynne Hong, "3D Modeling Through Generic Part Morphing and Image Matching," July 2006.
8. Jun Murakawa, "Parts, Image, and Sketch Based 3D Modeling Method," May 2006.
9. Sachiko Halper, "Online Teaching Component Involving a PowerPoint Plug-in and a Server," May 2006.
10. Gauri Deshmukh, "Interactive Online Classroom," May 2005.
11. Chatchawan Chansmorn, "3D Modeling Techniques Based on 2D Image Manipulation," May 2005.
12. Alan Shimoide, "Image Analysis to Track the Movement of Spiracles in the Tobacco Hornworm," May 2005.
13. Jaime G. Ruiz, "3D Species Modeling Tools for Ecologists," May 2005.
14. Mayuresh Dalal, "Novel View Generation Using Micro-Surfaces And Layered Depth Pixels," Sept. 2004.
15. Eli Levine, "Webs on the Web: Storage and Visualization of Ecological Networks using FoodWebML," May 2003.
16. Hai-jung Chen, "Interactive Virtual Tour in World Wield Web Using Image-Based Rendering," May 2003.

18. Aalap Parikh, “Interoperability and Maturity Assessment of XML Web Services Platforms,” Dec. 2002.
19. Tom Hsu, “The Virtual Tour Project,” May 2002.

GRADUATE STUDENTS

Scott Bishop, Jerry Chen, Berndt Jung, Bruce Gotlieb, Chris Akuna, Eric Gregory, Zoran Milic, Larry Quantz, Duc Ta.

MASTER’S THESIS COMMITTEE

1. Steve Rysavy, “Identification of Large Periapical Lesions,” May 2008.
2. Arturo Flores, “Classification of Large Periapical Lesions,” May 2008.
3. Anupama Sharma, “Web Archive Analysis Tool,” Dec. 2007.
4. Vaidehi Mehta, “Image Annotation,” May 2007.
5. Neha Arora, “Archiving Strategy for Web Annotizer,” May 2007.
6. Suhel Parekh, “Encryption Techniques for Annotizer,” April 2007.
7. I-Yang Hsiao, “The Management System for Annotizer WWW Annotation System,” March 2007.
8. Varsha Khemani, “Exception Handling in a Distributed Environment,” May 2006
9. John Roberts, “Browsing in Large Time-Dependent Datasets,” May 2005.
10. Chris Lacy, “XMLVM for C++ with CORBA,” May 2005.
11. Keith Deming, “Mode Selection Techniques for Pen Input Systems,” Feb. 2005.
12. Siddharth Desai, “Making X Window Clients Acessible Over the Internet,” May 2005.
13. Arash Farahmand, “Windowing Protocol Visualization,” May 2004.
14. Shahid Khatri, “Creating Context Aware Distributed Applications for a Dynamic Collaborative Environment,” August 2004.
15. Amy Ichnowski, “The Lecturer's Assistant: Information Sharing and Personalization in a Smart Classroom,” May 2004.
16. Stelios Christofides, “Evaluation and Performance Comparison of the Java (J2SE) and C#.NET Environments for Client/Desktop Applications,” April 2004.
17. Sakir Murat Cengiz, “A Comparison of Object Oriented and Procedural Workloads,” April 2004.
18. Son H. Phan, “Focus+Context Sketching on a PDA,” December 2003.
19. Ming Zhang, “DBMap: a Treemap-Based Database Exploration and Visualization Framework for Neurological Data Warehouse,“ May 2003.
20. Chao-Hsueh Cheng, “A Java Program to Transfer Data Between Spreadsheet and XML,” May 2003.
21. Chao Y. Liang, “ER Tools Extension: Data Transfer Between XML and ODMG Database,” May 2003.
22. Cheng-Da Liu, “Representing ER Schema in 3D mode for the ER Design Tool,” April 2003.
23. Min Zhai, “Static In-memory Cache,” April ’02.
24. Abdulah Yahya , “A Java Tool to Map ER Schemas with constraints into ODMG objects,” May ’02
25. Qun Zhang , “MPEG Video Bandwidth Characteristics,” May ’02
26. Metin Kadaster “A Java-Based System Evaluation Tool,” May ’02

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 – 2007)
3. Reviewer of ACM Symposium of Applied Computing (2004)
4. Reviewer of ACM Interactive 3D graphics (2002 - 2003)
5. Technical Committee member of Computer Graphics Program at Technical Committee of International Association for Sciences and Technology for Development (IASTED) (2002 – 2005)
6. Reviewer of Eurographics Hardware Workshop (1998 – 2000)
7. Reviewed a book "CS1 in C++ book." By Forouzan & Gilberg. from Brooks & Cole Publishing (Dec. 2001)