

CURRICULUM VITAE

Yonggao Yang, Ph.D., Professor, Department Head
Computer Science Department, Prairie View A&M University, TX 77446
Email: yoyang@pvamu.edu Webpage: www.pvamu.edu/cs
Telephone: (936)261-9872/9884 Fax: (936)261-9866

1. EDUCATION

May 2002 Doctoral Degree, George Mason University, Fairfax, Virginia, USA (Information Technology/CS)
May 1998 Doctoral Degree, Southwest Jiaotong University, Chengdu, Sichuan, China (Electrical Engineering)

2. PROFESSIONAL EXPERIENCE

1/2014 ~ Present Department Head, Computer Science Department, PVAMU, Texas
1/2009 ~ 12/2013 Interim Department Head, Computer Science Department, PVAMU, Texas
1/2013 ~ Present ABET Program Evaluator

9/2014 ~ Present Tenured Professor, CS Dept., Prairie View A&M University, Texas
9/2008 ~ 8/2014 Tenured Associate Professor, CS Dept., Prairie View A&M University, Texas
8/2002 ~ 8/2008 Tenure-Track Assistant Professor, CS Dept., Prairie View A&M University
8/1998 ~ 7/2002 Research Assistant, CS Dept., George Mason University
7/1998 ~ 7/1988 Teaching Assistant; Lecturer; Associate Professor; Southwest Jiaotong University

3. RESEARCH INTERESTS

- Virtual Reality and Scientific Visualization
- Smart Human Computer Interface
- Smartphone Apps Development
- 3D Animation & Simulation
- Computer Graphics & Game Design
- Smart Sensor Systems

4. MAJOR COURSES TAUGHT

- COMP-3063 Operating Systems
- COMP-3043 Computer Organization
- COMP-3213 Computer Graphics and Vis.
- COMP-4123 Computer Networks
- COMP-1214 Computer Science I
- COMP-1224 Computer Science II
- COMP-4072 Senior Design I
- COMP-4082 Senior Design II
- COMP-3333 Smart Device App Development
- COMP-5133 Advanced Operating Systems
- CINS-5063 Advanced Data Structure
- COMP-5263 Computer Graphics
- COMP-5983 Information Assurance

4. Major RESEARCH PROJECTS

- “Center of Excellence in Research and Education for Big Military Data Intelligence (CREDIT)”, awarded by DoD, with the total of \$5M. 2015 – 2020. (Co-PI)
- “Mobile Environmental Massive Data Collection,” awarded by NSF (sub-contract), \$8,500. June 2014 – July 31, 2015. (PI)
- “BPC -DP: Building Computing Aptitude, Confidence, and Engagement for Students (Computing ACES),” awarded by NSF with the total amount of \$599,085. March 2010 ~ 12/2015. (Co-PI)
- “Intelligent Energy Supply Control System Study and Renewable Energy Science Education Initiative,” TCMF, \$100K, 6/2011~7/2012. (PI)
- “Target Infusion Grant: Infusing the Tablet PC and Problem Based Learning into Computer Science Curriculum to Enhance Student Ability in Computing Problem Analysis and Software Design,” Awarded by NSF, \$170K, 9/2010~12/2013. (PI)
- “Thurgood Marshall College Fund Technology Awards for Faculty Innovation in Education,” awarded by TCMF with the total amount of \$60,000 for one year starting from Sep. 2010. (PI)
- “MRI: Acquisition of a PowerWall Virtual Reality System for Enabling Research/Teaching in Virtual Prototyping,” Funded by NSF (awarded no.: 0923447, awarded amount: \$216,779), effective 10/1/2009.

- “Feasibility and Applications of RFID Technologies to Support Right of Way Functions,” Funded by TxDoT (\$78,697); 2008~2009 (Co-PI)
- “Asset Management for Safety and Operations”, Funded by TxDoT (\$104,553); 2008~2010 (Co-PI)
- “Benchmarking and Improving Texas Rural Public Transportation Systems,” Funded by the TxDoT (\$25,244); 2008~2009. (Co-PI)
- “A Virtual Reality Infrastructure for Enhancing Undergraduate Math Teaching and Learning,” Funded by the Department of Education (\$381,221). A five-year project starting from Oct. 1, 2007. (Co-PI)

5. MAJOR PUBLICATIONS SINCE 2002

New submissions under review

- **Y. Yang** and L. Li, "A Smart Sensor System for Air Quality Monitoring and Massive Data Collection," Submitted to *6th IEEE International Conference on Information and Communication Technology (ICT) Convergence (ICTC 2015)*.
- D. Zhou, **Y. Yang**, etc., “A Smart Virtual Eye Mobile Prototype System for the Visually Impaired,” Submitted to *IEEE Potentials*

Technical Magazine or Journal Papers

- **Y. Yang**, etc., "Design and Implementation of a Remote Resident Power Monitor and Control System," *IEEE Potentials*; Vol.34, No.4, July/August 2015, pp19-23.
- **Y. Yang** and L. Li, "Design and Implement a Smart e-Receptionist," *IEEE Potentials*, Vol. 32, No. 4, July/August 2013, pp22-27.
- **Y. Yang**, X. Wang, and L. Li, “Use Mobile Devices to Wirelessly Operate Computers," *International Journal of Technology and Human Interaction (IJTHI)*, Vol. 9, No. 1, January-March 2013, pp. 64-77.
- **Y. Yang** and L. Li, "Expose Engineering Students to Renewable Energy Science and Experiment Intelligent Energy Supply Control System," *American Journal of Engineering Education*, 2013.
- **Y. Yang** and L. Li, "Turn Nintendo Wiimote into Handheld Computer Mouse," *IEEE Potentials*, Vol. 30, No. 1, Jan/Feb 2011, pp.12-16.
- S Cui, Y. Wang, **Y. Yang**, F. Nave, and K. Harris, "Connecting Incoming Freshmen with Engineering Through Hands-On Projects," *American Journal of Engineering Education*, Oct., 2011
- Jian-ao Lian and **Y. Yang**, "A New Cross Subdivision Scheme for Surface Design," *Journal of Mathematical Analysis and Applications*, Vol. 374, Issue 1, February , 2011, pp. 244-257.
- **Y. Yang** and J. Lian, "Make 3D Object Surfaces Smoother: Two New Interpolating Subdivision Schemes," *IEEE Computing in Science and Engineering*, May/June 2010, pp. 44-50.
- Jian-ao Lian, Yonghui Wang, and **Y. Yang**, "Circular Nonlinear Subdivision Schemes for Curve Design," *Applications and Applied mathematics: An International Journal (AAM)*, Vol.4, No. 1, June 2009, ISBN: 1939-9466, pp 1 – 12.
- Y. Wang, S. Cui, **Y. Yang**, and J. Lian, "Virtual Reality Mathematic Learning Module for Engineering Students," *Technology Interface Fournal*, Vol. 10, No. 1, 2009, pp 1 - 10.
- **Y. Yang** and J. Lian, "Make 3D Object Surfaces Smoother: Two New Interpolating Subdivision Schemes," submitted to an IEEE magazine; 2008
- **Y. Yang**, A. Lodgher, and S. Xing, "Bring Rigid Bodies to Life," *IEEE Potentials*, Vol. 26, No. 5, Sep./Oct., 2007, pp. 26-31.
- **Y. Yang**, A. Lodgher, and W. Zhang, "Reconstruct 3D Objects from 2D Boundaries," *IEEE Potentials*, Nov./Dec., 2006, pp. 8-13.
- **Y. Yang** and A. Lodgher, "Use 3D Graphics Learning Environment to Help Comprehend Non-Intuitive Concepts," *Computers in Education Journal*, Vol. XVI, No. 4, October/December 2006, pp.51-57.
- **Y. Yang**, V. Soto, and A. Lodgher, "Raster to Scalable Vector Graphics Conversion," *Journal on Graphics, Vision and Image Processing (ICGST)*, Special Issue on Image Retrieval and Representation, March 2006.
- **Y. Yang**, M. Beheshit, and X. Wang, "Blurry When Wet: Animating Raindrop Behavior," *IEEE Potentials*, August/September 2005, pp. 33-36.

- **Y. Yang**, J. Chen, and M. Behesht, "Nonlinear Projections and Magic Lenses: 3D View Deformation," *IEEE Computer Graphics & Applications*, Vol. 25, No. 1, Jan./Feb., 2005, pp.76-84.
- **Y. Yang** and J. Chen, "Real-Time Simulation: Water Droplets on Glass Windows," *IEEE Computing in Science and Engineering*, Vol. 6, No.4, July/August 2004, pp. 69-73.
- **Y. Yang** and J. Chen, "Gene Expression Clustering and 3D Visualization," *IEEE Computing in Science and Engineering*, Sep./Oct., 2003, pp. 37-43.
- **Y. Yang** and J. Chen, "Nonlinear Projection: Using Deformations in 3D Viewing," *IEEE Computing in Science and Engineering*, Vol. 5, No.2, March/April 2003, pp. 54-59.
- **Y. Yang** and J. Chen, "Rendering Avatars in Virtual Reality: Integrating 3D Model with 2D Images," *IEEE Computing in Science and Engineering*, Vol. 4, No. 1, Jan/Feb 2002, pp. 86-91.
- J. Chen, **Y. Yang**, and X. Wang, "Physics-Based Modeling and Real-time Simulation," *IEEE Computing in Science and Engineering*, Vol. 3, No. 3, May/June 2001, pp. 98-102.
- **Y. Yang** and J. Chen, "3D Graphics Formats and Conversions," *IEEE Computing in Science and Engineering*, Vol. 2, No. 5, September/October 2000. pp. 82-87.
- **Y. Yang** and Q. Pan, "The Design and Analysis of a New Reliable Multicast Protocol for DVE," *Chinese Journal of Computers*, Vol.22, No.4, May 1999.
- **Y. Yang**, "A Network Architecture and Protocol for DVE," *Journal of Southwest Jiaotong University*, Vol. 31, No.2, February 1999.

Conference Papers

- D. Zhou and Y. Yang, "", Proc. 2015 International Conf. on Image Processing, Computer Vision, and Pattern Recognition (ICCV'2015), 2015, pp319-324.
- Y. Wang, J. Lian, and **Y. Yang**, "Interactive Math Learning for STEM Students," Accepted at 119th ASEE Annual Conference & Exposition, June 10-13, 2012.
- S. Cui, **Y. Yang**, and A. Lodgher, "Media Computation Projects for High School Students," Accepted at 119th ASEE Annual Conference & Exposition, June 10-13, 2012.
- L. Li and **Y. Yang**, "Work in Progress: Programming Concept Visualization using Flash Animations," Accepted at 119th ASEE Annual Conference & Exposition, June 10-13, 2012.
- **Y. Yang**, L. Li, and K. Bellam, "VMathLab, a 3D-Game-Like System for College Math Learning Enhancement," *IEEE Proc. 4th International Conf. on Computer Science and information Technology (IEEE ICCSIT'2011)*, June, 2011, pp. 621- 626.
- **Y. Yang**, and L. Li, "Turn Smartphones into Computer Remote Controllers," *IEEE Proc. 4th International Conf. on Computer Science and information Technology (IEEE ICCSIT'2011)*, June, 2011, pp. 454- 457.
- L. Li and **Y. Yang**, "Enhance Engineering College Math Teaching with Gaming and Virtual Reality Learning Modules," *American Society for Engineering Education Annual Conference*, June 2011.
- S. Cui, Y. Wang, S. Koay, and **Y. Yang**, "Revamp Computer education with Multimedia and Game Technologies," *American Society for Engineering Education*, 6, 2010.
- L. Li, S. Frizell, and **Y. Yang**, "Infusing Tablet PCs and Interactive Learning Technology into Computer Science Education to Enhance Student Learning," *American Society for Engineering Education*, 6, 2010.
- J. Lian, Y. Wang, and **Y. Yang**, "New circular nonlinear subdivision schemes for curve design," *Proc. of International Conference on Computer Graphics and Virtual Reality*, July 2009, pp. 110-115.
- Y. Wang, **Y. Yang**, and J. Lian, "Make math learning game like and bridge between math and engineering," *Proc. of International Conference on Computer Graphics and Virtual Reality*, July 2009, pp. 110-115.59-65.
- Yonghui Wang, Suxia Cui, Jian-ao Lian, **Y. Yang**, Cajetan Akujuobi, "Image Completion in Redundant Wavelet Domain," *Proc. of International Conference on Image Processing, Computer Vision, and Pattern recognition*, July 2009, pp.
- **Y. Yang** and J. Lian, "A new sqrt(2)-subdivision scheme for arbitrary surface design", *Proc. of International Conference on Computer Graphics and Virtual Reality* , July 2008, pp 41-46.
- J. Perkins, M. Hudson, and **Y. Yang**, "Developing a GIS-Based System for Analyzing Medical Transportation Activities," *Proc. of International Conference on Information & Knowledge Engineering*, July 2008, pp243-249.

- S. Xing and **Y. Yang**, "Approaches on Internet Growth Measurement: Hostname-Based vs. Address-Based," *Proc. International Conference On Computing (ICOMP'07)*, 2007, pp. 200-206.
- **Y. Yang**, F. Jiang, and S. Xing, "Use Physics-Based Animation to Generate Polyhedra," *Proc. International Conference on Modeling, Simulation and Visualization (MSV'07)*, 2007, pp. 316-320.
- W. Zhang and **Y. Yang**, "Texture Mapping With Vector Graphics: A Nested Mipmapping Solution," *International Conference on Computer Graphics and Virtual Reality (CGVR'06)*, 2006, pp. 97-103.
- **Y. Yang** and X. Wang, "Nonlinear 3-D Motion Simulation Using Multi-sensor Data Fusion," *International Conference on Modeling, Simulation and Visualization Methods (MSV'06)*, 2006, pp. 56-62.
- **Y. Yang**, V. Soto, K. Paick, and A. Lodgher, "Raster to Scalable Vector Graphics Conversion," *ICGST International Conference on Graphics, Vision and Image Processing (GVIP - 05)*, Dec. 2005, pp. 47-52.
- X. Wang, X. Han, and **Y. Yang**, "A Web-Based 3D Environment for Teaching and Learning," *Proc. The 2005 Information Resources Management Association International Conference (2005 IRMA)*, San Diego, California, May 2005, pp. 715-717.
- **Y. Yang**, Y. Peng, and K. Paick, "PDF2XML: Converting PDF to XML," *The 2004 International Conference on Information and Knowledge Engineering (IKE'04)*, pp. 447-450.
- **Y. Yang** and X. Wang, "Simulation of Raindrop Behaviors on Vehicle Windshields," *Proc. International Conference on Modeling, Simulation & Visualization Methods (MSV'04)*, 2004, pp. 118-124. (CSREA Press, ISBN:1-932415-34-3).
- **Y. Yang** and J. Chen, "Apply Nonlinear Projections to Deform 3D Worlds," *Proc. IEEE Parallel and Distributed Computing, Applications and Technologies, 2003 (PDCAT'2003)*. pp. 809-813.
- J. Chen and **Y. Yang**, "MUVEES: a PC-based Multi-User Virtual Environment for Learning," *Proc. IEEE Virtual Reality 2003 (VR'03)*, March 2003, pp. 163-170.
- **Y. Yang**, "Multi-User Virtual Learning Environments: Design, Implementation, and Avatar Behavior," Ph.D. Dissertation, George Mason University, Fairfax, Virginia, May 2002.
- **Y. Yang** and J. Chen, "Impostors-Based Real-Time Avatar Behavior Animation in Virtual Reality Systems," *Proc. IEEE Distributed Interactive Simulation and Real Time Applications (DIS-RT'2001)*, August 2001, pp.37-44.
- J. Chen and **Y. Yang**, "Distributed Interactive Virtual Surgery System," *Second Conference on Simulation Methods and Applications (CSMA'2000)*, October 29-31 2000, Orlando, Florida, USA.
- J. Chen and **Y. Yang**, "Near Real-Time Simulation of Particle Systems," *Proc. IEEE Distributed Interactive Simulation and Real Time Applications (DIS-RT'99)*, October 1999, pp. 33-40.
- J. Chen and **Y. Yang**, "Distributed Interactive Learning Environment," *Proc. IEEE Distributed Interactive Simulation and Real Time Applications (DIS-RT'99)*, October 1999, pp. 49-56.