Roger W. Webster, Ph.D.
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Education:

Temple University - School of Engineering, Department of Computer Science. Philadelphia, Pennsylvania.

Ph.D. degree earned (1988) in Computer Science.
Dissertation area: Computer Vision, Image Processing and Computer Graphics. Title: Partial Boundary Matching and Shape Fitting Using the Medial Axis Transformation. Dissertation published in IEEE Transactions on Systems, Man and Cybernetics, September/October 1991, Vol. 22, No. 5.

M.A. degree earned (1986) in Computer Science.
Major course work in Computer Vision, Image Processing and Computer Graphics. Thesis project published in the Proceedings of the International Association of Pattern Recognition Workshop on Machine Vision Applications (IAPR MVA'90), Tokyo, Japan, Nov. 1990.

Bentley College - Graduate School, Waltham, Massachusetts.

M.S. degree earned (1982) in Computer Information Science. Major course work in Computer Networking and Distributed Processing. Thesis project published in the Proceedings of the Annual ACM Conference on Office Automation, University of Toronto, Ontario, June 1984.

University of Southern Maine - School of Business and Economics. Portland, Maine.

B.S. degree earned (1979) in Business Administration. Major coursework in Marketing Research, Computer Science, Statistics.

University of Pennsylvania - Center for Human Simulation and Modeling, Department of Computer Science, School of Engineering and Applied Sciences, Philadelphia, PA.

Visiting Researcher (2004) Computer Graphics and Game Technology (CGGT) Program, courses of study: Computer Animation, 3D Game Development.
Visiting Researcher (1997) Human Modeling and Simulation Program, courses of study: 3D Graphics Programming, VRML, and Mathematics.

Massachusetts Institute of Technology - Cambridge, Massachusetts. Attended Special Summer Short Course Programs (1990-1996):

"Expert Systems and Neural Networks in Engineering" MIT Intelligent Systems Lab.
"Robot Manipulators and Artificial Intelligence" - MIT Artificial Intelligence Lab.
"Robot Design and Control Theory" - MIT Mechanical Engineering Lab.
"Robot Manipulators, Computer Vision and A.I." - MIT Artificial Intelligence Lab.

Employment:

Florida SouthWestern State College

School of Business and Technology, Department of Computer Science, Ft. Myers, FL, Professor of Computer Science, August 2019 to present.

- Chairman - Department of Computer Science (2019).
- Professor of Computer Science (2019-present).

Designed and developed the following new courses:

- COP3655 App Development for Mobile Devices (BAS IST 4-year degree)
- COP3538 Data Structures for IT (BAS IST 4-year degree)

Millersville University

Department of Computer Science, Millersville, PA, Professor of Computer Science, January 1983 to May 2018 (retired after 35 years).

- Chairman - Department of Computer Science (1995 -2000).
- Director of the Intelligent Machines Laboratory, (1990-2018).
- Professor of Computer Science (1990-2018).
- Associate Professor of Computer Science (1987-1990).
- Assistant Professor of Computer Science (1983-1987).

Designed and developed the following courses:

- CS419 Mobile App IOS and Android Development
- CS475 3D Game Development and Computer Animation
- CS375 Computer Graphics and Virtual Reality

Verefi Technologies Inc.

Co-owner and Chief Software Office (CSO), Elizabethtown, PA., April 2003 – January 2009. Established in April 2003, Verefi Technologies developed and sold surgical simulators worldwide. A member of the Board of Directors for the company. Oversaw all software research and development (R&D).

Hewlett-Packard Corporation

Medical Systems Division. Engineering Research and Development Lab. Waltham, Massachusetts. January 1979 to January 1983.

- Software Development Engineer. Designed and developed systems software for HP's Medical Productivity Network software package. 1981-1983.
- Data Base Analyst. Designed and developed data base schemas, concurrent access and interface software. Wrote tracking algorithms to monitor database activity. 1980-1981.

- Programmer Analyst. Designed and developed systems software for Manufacturing and Engineering applications. 1979-1980.

Research Areas/Interests:

- Android and iPhone App Development for Mobile Phones and Devices. Link to all my apps is here.

External Grants and Research Projects:

1. Beekeeper Pathologies App research consulting project (October 2024 – present) contracted to do the software development to build an iPhone App entitled: "Beekeeper Pathologies App with NHBS data from the University of Maryland", not yet published on the Apple App Store.
2. YinYu Mathematical Game App consulting project (January 2023 – present) contracted to do the software development to build an iPhone App entitled: "YinYu Mathematical Game" to be published on the Apple App Store with a local Florida company Steven Kelly, LLC located in Cape Coral, Florida. Link to App is here.
3. YinYu Mathematical Game App consulting project (January 2023 – present) contracted to do enhanced software Android development to build an Android Phone App entitled: "YinYu Mathematical Game" to be published on the Google Play Store with a local Florida company Steven Kelly, LLC located in Cape Coral, Florida. Link to App is here.
4. Captiva Island Inc. consulting project (February 2022 – August 2022) development for making their web site mobile ready ", https://captivaspirits.com/ is a local Florida company located in Ft. Myers, Florida.
5. BiditBillit, LLC consulting project (January 2022 - present) to do enhanced software development on an iPad and iPhone App entitled: "BiditBillit Contractors and Handyman App ", designed and owned by Randal Kendrix of BidItBillIt, LLC, a local company in Ft. Myers, Florida. The App, located on the Apple Play Store is used by local community contractors in SW Florida and nationwide. Link to App is here.
6. US Open Pickleball Championships, Naples, Florida, consulting project (December 2019 - February 2020) to design, build and deploy an Android App entitled: "An RFID Security Entrance Android App for the US Open Pickleball Championships Naples, Florida", this App reads VIP patron RFID tags on a Turck RFID hand held smart phone device and checks authorized entry using a MySql Data Base on a LAN server. Link to App is here.
7. Tabor Community Services, Ann B. Barshinger Financial Empowerment Center for Lancaster County, Lancaster, PA, consulting project (March 2018 – present) to design, build and deploy Tabor's IPhone and Android Apps.
8. BlueRock Cabinets Inc., Lancaster, PA, consulting project (May 2018 – present) to design, build and deploy the BlueRock Cabinets new website and build corresponding IPhone and Android Apps.
9. EZSolutions Corp, Lancaster, PA, research project (April 2012 – 2014) to build and deploy IOS/IPhone and Android Apps for the Isaac's Restaurant chain of 20 stores throughout Pennsylvania. Written in Java and Objective C these Apps can (1) order takeout food via your smart phone from any Isaac's store, (2) find any Isaac's locations using the phone's GPS sensor, and (3) link to Facebook (Dr. Roger Webster and Ryan Garchinsky).
10. ECKey Corp in Lancaster, PA, research project (January 2013) to consult on IOS/IPhone and Android Apps for the ECKey security system that opens doors via Bluetooth with your smart phone. Written in Java and Objective C these Apps can (1)

open security doors in corporate buildings via your smart phone and log any and all entry, (2) software to manage wireless communications to all ECKey door lock devices to manage all entry and exit transactions (Dr. Roger Webster).

11. Department of Defense Telemedicine and Advanced Technology Research Center (DOD-TATRC) grant funded by the USA Medical Research and Materiel Commands Broad Agency Opportunity Number W81XWH-BAA08-1 Phase I award ($213,550) entitled *"Ocular Trauma Microsurgery Simulator"*, a joint project with the Pennsylvania State University College of Medicine Department of Ophthalmology, Microsurgical Development Corporation, Digital Indigo Incorporated, and Millersville University, (January 2010 – January 2011). Awarded to Dr. Joseph Sasanni (PSU-COM) and Dr. Roger Webster (MU).
12. Pennsylvania State University College of Medicine, Department of Anesthesiology Medical Research grant ($10,000) entitled *"Development of a Haptic Surgical Simulator for Needle Insertion"*, (January 2009 – January 2010). This grant provides funding to develop software modules for a virtual surgical simulator for skills training in needle insertion. Awarded to Dr. Roger Webster, Computer Science principal investigator along with Dr. Bosseau Murray, PSU College of Medicine.
13. Alcoa Incorporated Rolling Mill Simulator (ARMS) research project (2008-2012) to build an interactive, model based, simulation tool intended for training cold rolling operators and engineers. The C# graphical user interface simulates a mill operating screen using dynamic displays of key mill operating parameters (such as speed, gap, tension) and process responses (such as roll force, slip, and power).
14. Pennsylvania Keystone Innovation Zone (KIZ) summer 2009 grant ($10,000) entitled *"*Development of an Ocular Trauma Microsurgery Simulator for Training Healthcare Professionals*"*, a joint project with Millersville University and MicroSurgical Software Incorporated, (June 2009 – August 2009). This grant provides summer funding for the development of a hardware and software solution for an ophthalmic surgical simulator. Awarded to Dr. Roger Webster (MU).
15. Telemedicine and Advanced Technology Research Center (TATRC) Phase II STTR award ($30,000) entitled *"Continuation of The Development of an Intracranial Hematoma (ICH) Surgical Simulator"*, a joint project with Verefi Technologies Incorporated and Millersville University (June 2008 – December 2008). Awarded to Dr. Gary Zoppetti (MU) and Dr. Roger Webster (MU).
16. National Science Foundation (NSF CCLI) Course, Curriculum, and Laboratory Improvement Program grant ($148,030) entitled *"A Computer Graphics and Game Development Track in Computer Science"* (June 2007 – August 2009). The goal of this grant project is to implement an exemplary curriculum track called Computer Graphics and Game Development (CGGD) that combines Computer Science with mathematics, physics, art, and digital media classes. NSF awarded to Dr. Roger Webster, Computer Science principal investigator.
17. Telemedicine and Advanced Technology Research Center (TATRC) Phase II STTR award ($786,000) entitled *"The Development of an Intracranial Hematoma (ICH) Surgical Simulator",* a joint project with Verefi Technologies Incorporated and Millersville University (June 2007 – December 2008). This grant provides funding for the development of API software modules and complete hardware development of a surgical simulator. Awarded to Dr. Randy Haluck, Dr. Carol Lake, Dr. Gary Zoppetti (MU) and Dr. Roger Webster (MU).
18. Pennsylvania Keystone Innovation Zone (KIZ) summer grant ($10,000) entitled *"*Development of an Application Program Interface (API) for SimPod, a Multiapplication Simulator for Training Healthcare Professionals*"*, a joint project with Millersville

University and Verefi Technologies Inc, (June 2007 – August 2007). This grant provides summer funding for the development of an API software module for the SIMPOD surgical simulator. Awarded to Dr. Roger Webster (MU).

19. Lions Club Research Grant, ($30,000) entitled *"Continuation of the Development of a Surgical Simulator for the Capsulorhexis Procedure during Cataract Surgery"*, (June 2006 – January 2007). This grant provides continuation funding for the development of software modules for a virtual surgical simulator for skills training in cataract surgery. Awarded to Dr. Joseph Sassani (PSU), Dr. Roger Webster (MU) and Matt Harris (MU).
20. Pennsylvania Keystone Innovation Zone (KIZ) grant ($10,000) entitled *"Development and Commercialization of a Capsulorhexis Cataract Surgical Simulator for Ophthalmology"*, a joint project with Millersville University, Verefi Technologies Inc, and the Pennsylvania State University College of Medicine Department of Ophthalmology", (June 2006 – August 2006). This grant provides summer funding for the development of a software module for a surgical simulator for capsulorhexis skills training in cataract surgery. Awarded to Dr. Roger Webster (MU) and Matt Harris (MU).
21. Lions Club Research Grant, ($25,000) entitled *"Development of a Surgical Simulator for the Capsulorhexis Procedure during Cataract Surgery Joint Project with the* Pennsylvania State University College of Medicine Department of Ophthalmology*"*, (June 2005 – January 2006). This grant provides funding to develop software modules for a virtual surgical simulator for skills training in cataract surgery. Awarded to Dr. Joseph Sassani (PSU), Dr. Roger Webster (MU) and Matt Harris (MU).
22. Telemedicine and Advanced Technology Research Center (TATRC) grant ($186,681) entitled: "*Development of RapidFire – A Dynamic Smart Tutor Surgical Simulation Trainer*", (April 2004 – April 2006), awarded to Dr. Randy Haluck and Dr. Roger Webster of Verefi Technologies Incorporated, Elizabethtown, Pennsylvania.
23. Pennsylvania State University College of Medicine, Department of Ophthalmology Medical Research grant ($10,000) entitled *"Development of a Surgical Simulator for the Capsulorhexis Procedure during Cataract Surgery on the EYESI System"*, (November 2004 – January 2005). This grant provides funding to develop software modules for a virtual surgical simulator for skills training in cataract surgery. Awarded to Dr. Roger Webster, Computer Science principal investigator.
24. Life Sciences Greenhouse of Central PA (LSGPA) grant ($98,681) entitled: "*Development of Novel Medical and Surgical Simulation Trainers*", (April 2003 – April 2004), awarded to Dr. Randy Haluck and Dr. Roger Webster of Verefi Technologies Inc. Hershey, Pennsylvania.
25. Pennsylvania State University College of Medicine, Department of Ophthalmology Medical Research Innovation grant ($10,000) entitled *"The Development of a Virtual Surgery Simulator for the Capsulorhexis Procedure during Cataract Surgery"*, (July 2003 – December 2003). This grant provides funding to develop software modules for a virtual surgical simulator for skills training in cataract surgery. Awarded to Dr. Roger Webster, Computer Science principal investigator.
26. National Science Foundation Major Research Initiative (NSF MRI) Program ($242,075) matching grant entitled *"Development of Haptic Instrumentation for Computer Science Research and Training Using Surgical Simulation as the Application"* (September 2001 – August 2004). This grant provides faculty release time, high performance graphics computers, and haptic force feedback equipment for research in 3D Computer Graphics, Virtual Reality, Haptic Surgical Simulation, and Human-Computer Interaction. NSF number EIA-00116616 awarded to Dr. Roger Webster, Computer Science principal investigator.
27. Pennsylvania State University College of Medicine, Department of Surgery and Eberly Medical Research Innovation grant ($32,050) entitled *"The Development of a Laparoscopic Virtual Surgery Simulator"*, (July 2000 – December 2001). This grant provides continued funding to develop software modules for a virtual surgical simulator

for skills training in laparoscopic surgery. Awarded to Randy Haluck, M.D., Penn State University College of Medicine, Department of Surgery, and Dr. Roger Webster, Computer Science principal investigator.

28. Pennsylvania State University College of Medicine, Department of Surgery feasibility grant ($72,280) entitled *"The Development of Computer-Based Visuospatial Skills Trainer for Laparoscopic Surgery"*, (February 2000 – January 2001). This grant provides funding to develop software modules for skills training in laparoscopic surgery using the Immersion Virtual Laparoscopic Interface simulation hardware. Awarded to Randy Haluck, M.D., Penn State University College of Medicine, Department of Surgery, and Dr. Roger Webster, Computer Science principal investigator.
29. Pennsylvania State University College of Medicine, Department of Surgery feasibility grant ($46,020) entitled *"Analysis of Surgical Skills in Haptic Virtual Surgery and its Transfer to Physical Surgery"* (July 1999 - July 2001). This grant provides funding for focused investment in instrumentation and software development to investigate skill acquisition in haptic virtual surgery and its transfer to physical surgery. The experimental goal of the project is to provide a proof-of-concept software development system to be able to measure the skills of expert surgeons against novice surgeons. Awarded to Randy Haluck, M.D., Penn State University College of Medicine, Department of Surgery, and Dr. Roger Webster, Computer Science principal investigator.
30. National Science Foundation (NSF CCLI) Course, Curriculum, and Laboratory Improvement Program matching grant ($56,030) entitled *"Integrating Haptics into an Undergraduate Computer Science Curriculum"* (July 1999 – July 2002). This grant provides haptic force feedback equipment for Computer Graphics, Virtual Reality, Scientific Visualization, and Human-Computer Interaction. NSF number DUE-9950742 awarded to Dr. Roger Webster, Computer Science principal investigator.
31. National Science Foundation (NSF) Instrumentation and Laboratory Improvement Program matching grant ($97,969) entitled *"A Virtual Reality and Scientific Visualization Laboratory for Undergraduates in Computer Science"* (January 1996 - 1998). This grant has provided greatly improved, modern research equipment for Computer Graphics, Virtual Reality, and Scientific Visualization. Scientific Visualization research is focused on high-performance 3D computer graphics for scientific modeling, virtual world modeling, and virtual reality simulations for research training and experimentation in the natural and physical sciences. NSF number DUE-9651237 awarded to Dr. Roger Webster, Computer Science principal investigator.
32. National Science Foundation ARI Grant. Principal Investigator in project entitled: *"Replacement and Renovation of Computer Science Research and Research Training Laboratories".* Awarded $141,827 from the National Science Foundation's Academic Research Infrastructure Program (February 1995 - 1999) to provide funds for focused investment in the revitalization of facilities for undergraduate research in computer science. NSF number 93-166 awarded to Dr. Albert Hoffman, Dean, Donald Stollenwork Facilities Manager, and Dr. Roger Webster, Computer Science principal investigator.
33. National Science Foundation Grant. Co-participant in project entitled: *"Providing and Integrating Educational Resources for Faculty Teaching Artificial Intelligence",* National Science Foundation Grant ($81,115), Summers 1994 and 1995, NSF Faculty Enhancement Program - Collaborative grant project with Temple University, Drexel University, Villanova University and Millersville University. Awarded to: Dr. Giorgio Ingargiola and Dr. Robert Aiken, Temple University, Philadelphia, Pennsylvania.
34. National Science Foundation Grant. NSF Instrumentation and Laboratory Improvement Program ($53,039) matching grant entitled *"A Real-Time Systems Laboratory to Improve Undergraduate Instruction in Computer Science",* Awarded to Dr. Roger W. Webster and Dr. Paul Ross, Millersville University, Grant No. DUE-9350841 (June 1993 to November 1995). Project Director.

35. National Science Foundation Grant. Co-participant in project entitled: "*FLAIR - Flexible Learning with an Artificial Intelligence Repository* ", National Science Foundation ($410,000), September 1991- February 1995, NSF Grant # CDA-9115254, Collaborative research project with Temple University, Drexel University, Villanova University and Millersville University. Awarded to: Dr. Robert Aiken and Dr. Giorgio Ingargiola, Temple University, Philadelphia, Pennsylvania, USA.
36. National Science Foundation Grant. NSF Instrumentation and Laboratory Improvement Program ($86,600) matching grant entitled "*A Workstation Laboratory to Improve Undergraduate Instruction in Artificial Intelligence*", Awarded to Dr. Roger W. Webster, and Dr. Paul Ross, Millersville University, Grant No. USE-9050371 (July 1990 to December 1992). Project Director.
37. ISC Research and Development Project. Awarded for research project entitled:" *A Computer Vision System to Locate and Track Moving Objects in 3-Space* ". Sponsored by the International Signal and Control Corporation, Lancaster, PA. This project used a binocular stereo computer vision system to compute the location of practice missiles in 3-space in real time. Academic year 1990/91.
38. Corporate Research Grant entitled: "*Unix Device Driver for Robot Vision Boards*". Sponsored by the MicroDisc Corporation of Mt. Laurel, New Jersey. The purpose of this ($32,000) grant was to develop a Unix device driver for a full series of image processing boards manufactured by the Imaging Technology Corporation. September 1986 - May 1987. Project Director.
39. Ben Franklin Advanced Technology Research Grant entitled: "*Computer Vision Automated Drilling System*". Contract number 85-45006322 under the Commonwealth of Pennsylvania act no. 223. Sponsored by the Rinehart Engineering Corporation and the Ben Franklin Partnership Program of Pennsylvania. The purpose of this ($210,000) grant was to develop a system for the automated recognition of coordinates of holes to be drilled on a printed circuit board. November 1985 - August 1986. Project Director.
40. Rinehart Engineering Award: awarded monies to attend an MIT short course during the summer of 1986. Sponsored by the Rinehart Engineering Corporation.

Publications and Presentations: (student authors in blue)

1. Dr. George Kodsey, Dr. Roger Webster, “Intelligent Query Optimization using AI Reinforcement Learning for Large-Scale Distributed Databases”, proceedings of the 2026 IEEE International Conference on Intelligent Systems and Interdisciplinary Applications (IEEE ISAIA 202), Track I - Intelligent System Foundations, AI, and Data Science, October 9-10, 2026, Montclair, New Jersey, USA.
2. Dabraham Martinez, Marleigh Steel, Andrew Webster, Dr. Roger Webster, “Senior Capstone - A Bee Keeper Pathologies App“, invited poster presentation accepted at the 13Th Annual Florida SouthWestern State College Research Conference, Research Expo Series Poster Session in 2025, sponsored by The FSW Office of Sponsored Programs & Research, Fort Myers. Florida. The Android App written by Dabraham, Martinez, the iPhone App was written by Dr. Roger Webster, additional info at: (www.RogerWebsterApps.com).
3. Roger Webster, Steven Kelly, “YinYu Mathematical Game Android and iPhone and iPad Apps “, designed and owned by Steven Kelly, LLC, a local company in Cape Coral, Florida.”, in preparation for a poster presentation at the 12Th Annual Florida SouthWestern State College Research Conference, Research Expo Series Poster Session in 2024, sponsored by The FSW Office of Sponsored Programs & Research, Fort Myers. Florida. The Android App modified by Dr. Roger Webster, the iPhone and iPad App was written by Dr. Roger Webster, additional info at: (www.RogerWebsterApps.com).

4. Roger Webster, Randal Kendrix, “BiditBillit – A Contractor and Handyman Invoicing iPhone and iPad App “, designed and owned by Randal Kendrix of BiditBillit, LLC, a local company in Ft. Myers, Florida.”, invited poster presentation accepted at the 11Th Annual Florida SouthWestern State College Research Conference, Research Expo Series Poster Session on April 4, 2023, sponsored by The FSW Office of Sponsored Programs & Research, Fort Myers. Florida. The iPhone and iPad App was written by Dr. Roger Webster, additional info at: (www.RogerWebsterApps.com).
5. Roger Webster, “An RFID Security Entrance Android App for the US Open Pickleball Championships in Naples, Florida”, invited poster presentation accepted at the 8Th Florida SouthWestern State College Research Conference, Research Expo Series Poster Session on November 15, 2021, sponsored by The FSW Office of Sponsored Programs & Research. The project was to design, build and deploy an Android App that reads VIP patron RFID tags on a Turck RFID hand held smart phone device and checks authorized entry using a MySql Data Base on a LAN server, additional info at: (www.RogerWebsterApps.com)
6. Roger Webster, "Comparing Mobile Device App Development and Deployment IOS/iPhone vs Google/Android" invited presentation accepted at The Central PA Open Source Conference (CPOSC), October 27, 2013 sponsored by the Central PA Linux User Group and the Central PA Ruby Meetup.
7. Din Z. Kagalwala, Sanjib Adhikary , W. Bosseau Murray and Roger Webster , “The Use of a Computerized Haptic Simulation Model to Track Angles of Epidural Needle Insertion by Anesthesiology Residents” , Published in the British Journal of Anesthesia BJA 108 (S2): pps. 179–180 (March 2012).
8. Roger Webster, *"Integrating Concurrency into an Undergraduate Computer Science Curriculum – A Real Time Train Simulation Controller Using a Finite State Model",* Presentation at the SIGCSE 2012 Lightning Round talks on Teaching Parallelism and Concurrency with Intel at SIGCSE, National ACM SIGCSE Conference (ACM/SIGCSE '2012). Sponsored by the Intel® Academic Community and the Association of Computing Machinery and the Special Interest Group on Computer Science Education (ACM/SIGCSE), Raleigh, North Carolina, February 29, 2012 – March 2, 2012.
9. Jon Mease, Gary Zoppetti, Roger Webster, Randy S. Haluck, Michael J. Fiorill, Carol L. Lake, Rod D. Shenk, "*Simulation of Bone Drilling for a Haptic Neurosurgical Simulator*", Poster Presentation at the 2009 International Meeting on Simulation in Healthcare (ISSH 2009) conference in Lake Buena Vista, Florida, January 10-14, 2009. PDF File.
10. Roger Webster, Joseph Sassani, M. Harris, R. Shenk, *"A Didactic Training Simulation System for the Capsulorhexis Procedure on the EYESI™ System"*, Poster Presentation at the Association for Research in Vision and Ophthalmology (ARVO ‘2007) conference in Ft. Lauderdale, Florida, May 5-9, 2007. PDF File.
11. Roger Webster, R. Haluck, R. Shenk, *"EndoTower™, RapidFire™, and LapFast - Developing Surgical Simulators for the 21st Century"*, Presentation and Software Demonstration for TATRC, The Telemedicine and Advanced Technology Research Center which is a subordinate element of the United States Army Research and Materiel Command (USAMRMC) at the 15th Annual Medicine Meets Virtual Reality Conference, (MMVR '2007), Long Beach, California, Sponsored by Aligned Management Association and the University of California at Irvine, February 5-7, 2007.
12. Joseph Sassani, M. Harris, R. Webster, *"A Didactic Training Simulation System for the Curvilinear Capsulorhexis Cataract Procedure on the EYESI™ System"*, Demonstration and Presentation at the Annual American Association of Ophthalmology (AAO ‘2006) conference in Las Vegas, NV, November 10-12, 2006. PDF File.
13. Chad Billman, G. Land, M. Bush, M. Harris, J. Holinger, S. Waldon, G. Zoppetti, R. Webster, *"Research into Developing 3D Game Programming Toolkits Using Opengl and DirectX "*, Poster Presentation at the 17th Annual Student Research Poster Symposium

and 60th Annual Eastern Colleges Science Conference, Philadelphia, PA, Sponsored by the Saint Joseph's University Chapter of Sigma Xi, April 22, 2006. PDF File.

14. Matt Harris, C. Billman, M. Bush, J. Holinger, Greg Land, S. Waldon, G. Zoppetti, R. Webster, *"A Simulation of the Curvilinear Capsulorhexis Cataract Procedure"*, Poster Presentation at the 17th Annual Student Research Poster Symposium and 60th Annual Eastern Colleges Science Conference, Philadelphia, PA, Sponsored by the Saint Joseph's University Chapter of Sigma Xi, April 22, 2006.
15. Roger Webster, J. Sassani, R. Haluck, R. Shenk, M. Harris, J. Blumenstock, J. Gerber, C. Billman, A. Benson, *"Simulating the Curvilinear Capsulorhexis Cataract Procedure on the EYESI™ System"*, Poster Presentation and Proceedings of the Annual Medicine Meets Virtual Reality Conference, (MMVR '2005), Long Beach, California, Sponsored by Aligned Management Association and the University of California at Irvine, January 24-29, 2005, pps. 592-595. PDF file.
16. Thai Pham, L. Roland, A. Benson, R. Webster, A. Gallagher, R. Haluck, *"Smart Tutor: A Pilot Study of a Novel Adaptive Simulation Environment"*, Proceedings of the Annual Medicine Meets Virtual Reality Conference, (MMVR '2005), Long Beach, California, Sponsored by Aligned Management Association and the University of California at Irvine, January 24-29, 2005, pps. 385-389.
17. Roger Webster, R. Haluck, R. Shenk, M. Harris, J. Blumenstock, J. Gerber, C. Billman, A. Benson, *"Using an Approximation to the Euclidean Skeleton for Faster Collision Detection and Tissue Deformations in Surgical Simulators"*, Poster Presentation and Proceedings of the Annual Medicine Meets Virtual Reality Conference, (MMVR '2005), Long Beach, California, Sponsored by Aligned Management Association and the University of California at Irvine, January 24-29, 2005, pps. 596-598. PDF file.
18. Roger Webster, J. Sassani, R. Shenk, G. Zoppetti, *"Simulating the Continuous Curvilinear Capsulorhexis Procedure During Cataract Surgery"*, Proceedings of the Annual IASTED International Conference on Modeling and Simulation (MS 2004), Marina Del Rey, California, March 1-3, 2004, pps. 262-265. PDF file.
19. Roger Webster, J. Sassani, R. Shenk, N. Good, *"A Haptic Surgical Simulator for the Continuous Curvilinear Capsulorhexis Procedure During Cataract Surgery"*, Proceedings of the Annual Medicine Meets Virtual Reality Conference, (MMVR '2004), Newport Beach, California, Sponsored by Aligned Management Association and the University of California at Irvine, January 15-17, 2004, pps. 404-406. PDF file.
20. Roger Webster, R. Haluck. G. Zoppetti, A. Benson, J. Boyd, N. Charles, J. Reeser, S. Sampson, "*A Haptic Surgical Simulator for Laparoscopic Cholecystectomy Using Real-Time Deformable Organs*", Proceedings of the IASTED International Conference on Biomedical Engineering (BioMED 2003), June 25-27, 2003, Salzburg, Austria, pps. 219-222. PDF file.
21. Roger Webster, R. Haluck, D. Hutchens, G. Zoppetti, A. Benson, J. Boyd, N. Charles, D. DeSanto, J. Reeser, S. Sampson, *"Integrating Haptics into an Undergraduate Computer Science Curriculum",* National Science Foundation (NSF-CCLI) Course, Curriculum and Laboratory Improvement Program Poster Exhibit, National ACM SIGCSE Conference (ACM/SIGCSE '2003). Sponsored by the Association of Computing Machinery and the Special Interest Group on Computer Science Education (ACM/SIGCSE), Reno, Nevada, February 19-22, 2003. PDF File.
22. Roger Webster, R. Haluck, B. Mohler, J. Boyd, J. Reeser, A. Benson, D. DeSanto, *"A Haptic Surgical Simulator for Operative Setup and Exposure for Laparoscopic Choleycystectomy"*, Poster Presentation at the Medicine Meets Virtual Reality Conference, (MMVR '2003), Newport Beach, California, Sponsored by Aligned Management Association and the University of California at Irvine, January 21-25, 2003. PDF file.
23. Brian Minarcik, W. Bosseau Murray, R. Webster, "*Measuring Human Tissues Forces: Developing a Haptic Surgical Simulator*", Proceedings of the Fifth Annual Medical

Education Conference on Using Simulation for Education and Assessment, sponsored by University of Rochester School of Medicine, Rochester, New York, May 4-6, 2002.

24. Roger W. Webster, R. Haluck, B. Mohler, R. Ravenscroft, E. Crouthamel, T. Frack, S. Terlecki, J. Sheaffer, *"Elastically Deformable 3D Organs for Haptic Surgical Simulators"*, Proceedings of the Medicine Meets Virtual Reality Conference, (MMVR '2002), Newport Beach, California, Sponsored by Aligned Management Association and the University of California at Irvine, IOS Press, January 23-26, 2002, pps. 570-572. PDF file.
25. Randy Haluck, A. Gallagher, R. Satava, R. Webster, T. Bass, C. Miller, *"Reliability and Validity of Endotower, A Virtual Reality Trainer for Angled Endoscope Navigation"*, Proceedings of the Medicine Meets Virtual Reality Conference, (MMVR '2002), Newport Beach, California, Sponsored by Aligned Management Association and the University of California at Irvine, IOS Press, January 23-26, 2002. PDF file.
26. Brian Minarcik, W.B. Murray, R. Webster, *"Developing a Haptic (Force Feedback) Virtual Reality Epidural Simulator: Measurement of Forces Required to Simulate Human Tissues"*, Poster presentation (won first prize) for the International Meeting on Medical Simulation, Sponsored by the Society for Technology in Anesthesia, Santa Clara, CA, January 11-13, 2002.
27. Roger Webster, D. Zimmerman, B. Mohler, M. Melkonian, R. Haluck, *"A Prototype Haptic Suturing Simulator"*, Proceedings of the Medicine Meets Virtual Reality Conference, (MMVR '2001), Newport Beach, California, Sponsored by Aligned Management Association and the University of California at Irvine, IOS Press, January 24-27, 2001, pps. 567-569. PDF file.
28. Randy Haluck, R. Webster, A. Snyder, M. Melkonian, B. Mohler, M. Dise, A. LeFever, *"A Virtual Reality Surgical Trainer for Navigation in Laparoscopic Surgery"* , Proceedings of the Medicine Meets Virtual Reality Conference, (MMVR '2001), Newport Beach, California, Sponsored by Aligned Management Association and the University of California at Irvine, IOS Press, January 24-27, 2001, pps. 171-176. PDF file.
29. Roger W. Webster, *"Developing a Haptic Medical Simulator"*, Panel presentation for the International Meeting on Medical Simulation, Sponsored by the Society for Technology in Anesthesia and the Rochester Simulation Symposium, Phoenix, Arizona, January 12-14, 2001.
30. W.Bosseau Murray, R. Webster, C. Venable, R. Haluck, K. Underberg, *"Haptic Applications for Medical Simulation: State of the Art"*, Report prepared by the Simulation Development and Cognitive Science Laboratory, Departments of Anesthesia, Nursing, and Surgery, Penn State University College of Medicine for the Medical Education Technologies Incorporated, Sarasota, Florida, December 20, 2000.
31. Lannience Freeman, W.B. Murray, S. Vaduva, R. Webster, J. Boyd, D.Jensenius, *"3D Anatomy Tutorial Template: A New Teaching Method Using Virtual Reality"*, Poster presentation at the Annual Society for Education in Anesthesia Conference, Washington, D.C., May 19-20, 2000.
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Recent Service and Community Events

1. November 2023, Dr. Roger Webster, was invited to be a Judge for the 2023 US Congressional App Challenge. The Congressional App Challenge is the most prestigious prize in student computer science. Participation in the challenge has grown exponentially and has reached underserved, diverse, and rural student populations. Details can be found at: www.congressionalappchallenge.us