

G. Michael Youngblood

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EDUCATIONAL BACKGROUND

2005 Ph.D. in Computer Science and Engineering, The University of Texas at Arlington, Intelligent Systems
Thesis Advisors: Lawrence B. Holder and Diane J. Cook, GPA: 4.00/4.00

2002 M.S. in Computer Science and Engineering, The University of Texas at Arlington, Intelligent Systems
Thesis Advisor: Lawrence B. Holder, GPA: 4.00/4.00

1999 Honors B.S. in Computer Science and Engineering, The University of Texas at Arlington, Robotics
Thesis Advisor: Lawrence B. Holder, GPA 4.00/4.00 Summa Cum Laude

1995 A.S. in Nuclear Engineering Technologies, Thomas Edison State College, Radiation Protection

U.S. Navy Nuclear Power Engineering Training:

1990 D1G Engineering Laboratory Technician, Ballston Spa, NY

1990 D1G Prototype Mechanical Operator, Ballston Spa, NY

1989 Naval Nuclear Power School, Orlando, FL

1989 Nuclear Field 'A' School, Orlando, FL

PROFESSIONAL HISTORY

Assistant Professor, Computer Science, UNC Charlotte, 8/2006–Present

Post-Doc, Computer Science and Engineering, UT Arlington, 8/2005–8/2006

Faculty Associate: Research, CSE, UT Arlington, 2/2002–8/2005

Senior Consultant, American Airlines, Fort Worth, TX, 7/2001–2/2002

Software Engineer II, Motorola Corporation, Fort Worth, TX, 6/2000–7/2001

Software Engineer, Lockheed Martin Corp., Grand Prairie, TX, 6/1999–6/2000

Research Assistant/System Admin, CSE, UT Arlington, 1/1998–5/1999

Nuclear Engineering Supervisor, Submarine Force, U.S. Navy, 7/1988–8/1996

Shift Manager, Wen-Corpus, Corpus Christi, TX, 4/1986–5/1988

Farm Worker, Pioneer Seed Company/Bailey Farms, Schoolcraft, MI, 6/1985–7/1985

RESEARCH INTERESTS

Interactive Artificial Intelligence, Simulation Learning, and Games & Entertainment Computing

I. TEACHING

A. Courses Taught Last Five Years

<u>Course #</u>	<u>Course Name</u>	<u>Semester/Year</u>	<u># Students</u>
ITCS 5231/4231	Advanced Game Design and Development	Spring 2008	14
ITCS 5230/4230	Introduction to Game Design and Development	Fall 2007	30
ITCS 5232/4232	Game Design and Development Studio	Spring 2007	14
ITCS 5010/4010	Special Topics: AI for Interactive Computer Games	Fall 2006	10

(UT Arlington)

CSE 4392 Computer Game Development. Designed and co-taught with Dr. Arthur Reyes in Spring 2006. 18 students.

B. Continuing Education Courses Taught for UNCC

None.

C. Curriculum Development

C.1. Courses

ITCS 5230/4230 Introduction to Game Design and Development
ITCS 5231/4231 Advanced Game Design and Development
ITCS 5232/4232 Game Design and Development Studio
ITCS 5236/4236 Artificial Intelligence for Computer Games
ITCS 5237/4237 Audio Processing for Entertainment Computing

C.2. Certificate Programs

Graduate Game Design and Development Certificate
Undergraduate Game Design and Development Certificate

D. Individual Student Guidance

D.1. Current Ph.D. Students

D. Hunter Hale, expected graduation May 2010

D.2. Name, Graduation Date & Thesis Title of all Ph.D. Students Graduated

None.

D.3. Current M.S. Students

Keith Dublin, expected graduation May 2009

D.4. Name, Graduation Date & Thesis Title of all M.S. Students Graduated

Priyesh Dixit, May 2008
Utilizing Interactive 3D Game Player Data for Knowledge Discovery and Visualization

D.5. Current M.S. Project Students

None.

D.6. Past M.S. Project Students and Title of their Projects

Vikram Jakkula (UT Arlington), Automating SF-36 Using Data from the Smart Home.

D.7. Current Undergraduate Students doing Research or Senior Projects

J. Serapio Roes, expected graduation May 2008

Jason Polk, expected graduation Dec 2008

Shawn Kirsch, expected graduation May 2010

D.8. Name, Graduation Date, and Senior Project or Research Title of Undergraduate Students who have Graduated

Billy Nolen (UT Arlington), May 2006, The Urban Combat Testbed, SSPS, and SARGE

Denis Gjoni (UT Arlington), May 2005, ARGUS: A Smart Home Sensor Network

Chris Lance (UT Arlington), May 2005, ResiSim and Zero Configuration Distributed Simulation

Stephen Olivier (UT Arlington), May 2005, Mavigator2: PDA-based MavHome Control and Information Interfaces

Farhan Khawaja (UT Arlington), May 2004, Developing Intelligent Mini-blind Control

a.) Senior Design Teams

Team Blue November (UT Arlington), Team Lead: Leaman Allred, Autonomous Underwater Vehicle

Team AUV Tracking (UT Arlington), Team Lead: Sunny Sheth, Autonomous Unmanned Aerial Vehicle Tracking System

Team 5 (UT Arlington), Team Lead: Ryan Dawson, HYDRA: Smart Home Sensor Network

E. Current and Past Post-Docs & Visiting Researchers

None.

F. Teaching Honors and Awards

Awarded the Navy Achievement Medal for excellence in running the USS EMORY S. LAND nuclear training and proficiency program.

G. Other Academic and Teaching Activities

Co-director of the *Games + Learning Lab* at UNC Charlotte established in Fall 2006.

Gateway to Engineering Guest Lecturer (2002–2004)

Provided an introduction to Computer Science and Engineering lecture and lab tour emphasizing UT Arlington

research activities and future careers in CSE to 8th, 9th, and 10th grade students attending UT Arlington Summer Camps.

Teaching Assistant (Spring 2002)

Assisted Dr. Lawrence B. Holder in the development of projects, assignments, and grading for the UT Arlington CSE 6362 Special Topics in Artificial Intelligence and Networks: Intelligent Environments course. Maintained course computer support infrastructure.

U.S. Navy Shipboard Instructor (1990–1996)

Lead nuclear instructor and training program manager aboard USS CANOPUS and USS EMORY S. LAND. Designed coursework and taught classes in the following areas: Basic Radiation Protection and Safety, Radiological Casualty Control, Radiological Controls Monitoring, Radiological Maintenance, Nuclear Power Plant Chemistry, Steam Plant Chemistry, Health Physics, and Nuclear Physics.

G.1. REU Students Supervised

Jason Deering (Winthrop University), UNC Charlotte 2007, User-created Game Character Behavior Builder

Jordana Hodges (UNC Charlotte), UNC Charlotte 2007, Kuku-Thaypan Fire Project
Michelle Chamberlain (Brooklyn University), UNC Charlotte 2007, Kuku-Thaypan Fire Project

Josh Mayer (UT Arlington), UT Arlington 2004, Visualizing MavHome Data through the Web

Jessie McDonald (LeTourneau University), UT Arlington 2004, ResiSim::Client Visualization using Zeroconf Technologies

Stephen Olivier (UT Arlington), UT Arlington 2004, Smart Kitchen Protocols and Future Appliances

Adelein Rodriguez (Florida International University), UT Arlington 2004, Fault Detection through Command Correlation and Sensor Perception

Ryan Duryea (Texan Christian University), UT Arlington 2003, Mavigator: PDA-based MavHome Control and Information Interfaces

Julia Drummond (UT Arlington), UT Arlington 2003, Improving CORBA with Zeroconf Technologies

Ricky Morley (LeTourneau University), UT Arlington 2003, MavHome OpenGL Visualization and Interactive Control

Bud Pitman (UT Arlington), UT Arlington 2003, Creating a Smart Kitchen using RFID Technologies

Kien Tran (UT Arlington), UT Arlington 2003, ARGUS: A Smart Home Sensor Network

Kyle Austin (LeTourneau University), UT Arlington 2002, Intelligent X10 Control Communications

Michael Garcia (UT Arlington), UT Arlington 2002, ResiSim: Residential Simulator Modeling

Courtney Pace (UT Arlington), UT Arlington 2002, Voice Recognition Interfaces for Smart Home Control

Jeff Schubert (LeTourneau University), UT Arlington 2002, Intelligent X10 Control Core

Lisa Shafer (UT Arlington), UT Arlington 2002, ResiSim: Residential Simulator Communication

Camille Wall (Texas Christian University), UT Arlington 2002, ResiSim: Residential Simulator Core

II. RESEARCH AND CREATIVE SCHOLARSHIP

A. Theses

D3. G. Michael Youngblood. "Automating Inhabitant Interactions in Home and Workplace Environments through Data-Driven Generation of Hierarchical Partially-Observable Markov Decision Processes." Doctoral Dissertation. The University of Texas at Arlington. August 2005.

D2. G. Michael Youngblood. "Agent-based Simulated Cognitive Intelligence in Real-time Entertainment-based Artificial Environments." Masters Thesis. The University of Texas at Arlington. August 2002.

D1. G. Michael Youngblood. "Autonomous Mobile Robot Exploration and Mapping of Place-Centric Occupancy Grids." Honors Bachelors Thesis. The University of Texas at Arlington. May 1999.

B. Patents Granted

None.

C. Published Journal Papers (fully refereed)

J4. Diane J. Cook, Lawrence B. Holder, and G. Michael Youngblood. "Analysis of Human Transfer Learning Using a Real-Time Game Testbed." *IEEE Transactions on Knowledge and Data Engineering* 19(11): 1465-1478, 2007.

J3. G. Michael Youngblood. "Engaging Students in Advanced Computer Science Education Using Game Segments." *Journal of Game Development*: 2(2), 2007. 33-45.

J2. G. Michael Youngblood and Diane J. Cook. "Data Mining for Hierarchical Model Creation." *IEEE Transactions on Systems, Man, and Cybernetics, Part C*, 2007.

J1. G. M. Youngblood, D. J. Cook, and L. B. Holder. "Managing Adaptive Versatile Environments." *Journal of Pervasive and Mobile Computing*, 1(4), 373-403. 2005.

D. Published Books, Book Chapters, and Edited Proceedings

B6. G. Michael Youngblood and Priyesh N. Dixit. "Understanding Intelligence in Games using Player Traces and Interactive Player Graphs." *Game Programming Gems 7 (AI Section)*. Charles River Media, 2008.

B5. Diane J. Cook, G. Michael Youngblood and Sajal K. Das. "A Multi-agent Approach to Controlling a Smart Environment." *Designing Smart Homes*. 2006. 165-182.

B4. D. J. Cook, G. M. Youngblood, and G. Jain. "Algorithms for Smart Spaces." *Technology for Aging, Disability, and Independence: Computer and Engineering for Design and Applications*. John Wiley and Sons, 2006.

B3. D. Cook, M. Youngblood, and S. Das. "A Multi-Agent Approach to Controlling a Smart Environment." *AI and Smart Homes* (J Augusto, ed.). Springer Verlag, 2006.

B2. G. Michael Youngblood. "Middleware." *Smart Environments: Technology, Protocols and Applications*. John Wiley and Sons, 2004.

B1. D. J. Cook and M. Youngblood. "Smart Homes." *Encyclopedia of Human-Computer Interaction*. Berkshire Publishing, 2004.

E. Fully Refereed Papers in Conference Proceedings

- C13. Priyesh N. Dixit and G. Michael Youngblood. "Optimal Information Placement in an Interactive 3D Environment." In the Proceedings of the 2nd ACM Sandbox Symposium, 2007.
- C12. Parisa Rashidi, G. Michael Youngblood, Diane J. Cook, and Sajal K. Das. "Inhabitant Guidance of Smart Environments." Human Computer Interaction International (HCII), 2007. 910-919.
- C11. G. Michael Youngblood. "Using XNA-GSE game segments to Engage Students in Advanced Computer Science Education." In the Proceedings of the Microsoft Academic Days on Game Development in Computer Science Education, 2007. 70-74. *Best Paper Award*. [Acceptance rate: 24%]
- C10. G. Michael Youngblood, Billy Nolen, Michael Ross, and Lawrence Holder. "Building Test Beds for AI with the Q3 Mod Base." Proceedings of the Artificial Intelligence in Interactive Digital Entertainment (AIIDE), June 2006.
- C9. G. M. Youngblood, D. J. Cook, and L. B. Holder. "Seamlessly Engineering a Smart Environment." Proceedings of the IEEE Conference on Systems, Man, and Cybernetics (SMC). October 2005.
- C8. G. Michael Youngblood, Diane J. Cook, and Lawrence B. Holder. "A Learning Architecture for Automating the Intelligent Environment." Proceedings of the Seventeenth Innovative Applications of Artificial Intelligence Conference (IAAI), July 2005. [Acceptance Rate: 23%]
- C7. G. Michael Youngblood, Edwin O. Heierman, Diane J. Cook, and Lawrence B. Holder. "Automated HPOMDP Construction through Data-mining Techniques in the Intelligent Environment Domain." Proceedings of the Eighteenth International Conference of the Florida AI Research Society (FLAIRS), May 2005. [Acceptance rate: 53%]
- C6. G. Michael Youngblood, Lawrence B. Holder, and Diane J. Cook. "Managing Adaptive Versatile Environments." Proceedings of the IEEE International Conference on Pervasive Computing and Communications (PerCom), March 2005. [Acceptance rate: 13%]
- C5. G. Michael Youngblood and Lawrence B. Holder. "Agent-based Players for a First-person Entertainment-based Real-time Artificial Environment." In the Proceedings of the 17th International Conference of the Florida Artificial Intelligence Research Society (FLAIRS) held in Miami Beach, Florida. May 2004.
- C4. D. J. Cook, M. Youngblood, E. Heierman, K. Gopalratnam, S. Rao, A. Litvin, and F. Khawaja, "MavHome: An Agent-Based Smart Home", Proceedings of the IEEE International Conference on Pervasive Computing and Communications, pages 521-524, 2003.
- C3. F. Khawaja, D. Gjoni, M. Huber, D. Cook and M. Youngblood. "Achieving Faster Convergence to the Optimal Policy by Using Knowledge of the Unimodal Reward Structure." Proceedings of IASTED Artificial Intelligence and Applications, 2003.
- C2. Arthur Alexander Reyes, Atilla Dogan, Jos R. Espino, G. Michael Youngblood, Sami A. Musa, and Srinivas Somanchi. "Overview of the University of Texas at Arlington's Autonomous Vehicles Laboratory." The Seventh IEEE International Symposium on Distributed Simulation and Real Time Applications, October 23-25, 2003, Delft, The Netherlands.
- C1. G. Michael Youngblood and Lawrence B. Holder. "Evaluating Human-Consistent Behavior in a Real-time First-person Entertainment-based Artificial Environment." In the Proceedings of the 16th International

Conference of the Florida Artificial Intelligence Research Society (FLAIRS) held in St. Augustine, Florida. 32-36. May 2003.

F. Abstract Refereed Papers in Conference Proceedings (Posters)

P1. G. Michael Youngblood, Edwin O. Heierman, Diane J. Cook, and Lawrence B. Holder. "Automation Intelligence for the Smart Environment." Proceedings of the Nineteenth International Joint Conference on Artificial Intelligence (IJCAI), August 2005. Poster Paper and Presentation. [Acceptance Rate: 25%]

G. Refereed Workshop Papers

W4. Vikramaditya R. Jakkula, G. Michael Youngblood and Diane J. Cook . "Identification of Lifestyle Behavior Patterns with Prediction of the Happiness of an Inhabitant in a Smart Home." Proceedings of the AAI 2006 Workshop on Computational Aesthetics: Artificial Intelligence Approaches to Beauty and Happiness. August 2006.

W3. Bharat Kondeti, Maheswar Nallacharu, Michael Youngblood, and Lawrence Holder. "Interfacing the D'Artagnan Cognitive Architecture to the Urban Terror First-Person Shooter Game." Proceedings of the IJCAI 2005 Workshop on Reasoning, Representation, and Learning in Computer Games. August 2005.

W2. E. Heierman, M. Youngblood, and D. J. Cook. "Mining Temporal Sequences to Discover Interesting Patterns." KDD Workshop on Mining Temporal and Sequential Data, 2004.

W1. G. Michael Youngblood, Lawrence B. Holder, and Diane J. Cook. "A Framework for Autonomous Mobile Robot Exploration and Map Learning through the use of Place-Centric Occupancy Grids." International Conference on Machine Learning. Stanford University, June 2000. Workshop on Spatial Learning.

H. Refereed Papers in Professional Society Magazines

M1. G. Michael Youngblood. "Web Hunting: Design of a Simple Intelligent Web Search Agent." ACM Crossroads. Summer 1999.

I. Other

I.1. Currently Submitted Journal Papers

Priyesh N. Dixit and G. Michael Youngblood. "Utilizing Interactive 3D Game Player Data for Knowledge Discovery and Visualization. " International Journal of Computer Games Technology, 2008. Under review.

G. Michael Youngblood. "The Common Games Understanding and Learning Toolkit" International Journal of Computer Games Technology (Special Edition on Artificial Intelligence), 2008. Under review.

I.2. Currently Submitted Conference Papers

Priyesh N. Dixit and G. Michael Youngblood. "Understanding Information Observation in Interactive 3D Environments." In the Proceedings of the 3rd ACM Sandbox Symposium, 2008. Under review.

Priyesh N. Dixit and G. Michael Youngblood. "Understanding Playtest Data through Visual Data Mining in Interactive 3D Environments." In the Proceedings of the 3rd ACM Sandbox Symposium, 2008. Under review.

Priyesh N. Dixit and G. Michael Youngblood. "Discovering Surface Information Values in Interactive 3D Game Player Data." In the Proceedings of the 14th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD-2008), 2008. Under review.

D. Hunter Hale and G. Michael Youngblood. "Automatically-generated Convex Region Decomposition for Real-time Spatial Agent Navigation and Information Compartmentalization" The Proceedings of the 4th AAAI AI in Interactive Digital Entertainment Conference, 2008. Under review.

G. Michael Youngblood. "The CGUL Toolkit for FPS/3PS General AI." The Proceedings of the 4th AAAI AI in Interactive Digital Entertainment Conference, 2008. Under review.

I.3. Technical Reports

T7. D. Hunter Hale, G. Michael Youngblood, and Priyesh N. Dixit. "Automatically-generated Convex Region Decomposition for Real-time Spatial Agent Navigation in Virtual Worlds ." Technical Report GL2-UNCC-08-03. Games + Learning Lab, Department of Computer Science, College of Computing and Informatics, The University of North Carolina at Charlotte. 2008.

T6. Priyesh N. Dixit and G. Michael Youngblood. "Understanding and Utilizing Surface Information Values." Technical Report GL2-UNCC-08-02. Games + Learning Lab, Department of Computer Science, College of Computing and Informatics, The University of North Carolina at Charlotte. 2008.

T5. G. Michael Youngblood, Lawrence B. Holder, and Diane J. Cook. "A Real-Time Perceptual Testbed for the Evaluation of General AI Systems." Technical Report GL2-UNCC-08-01. Games + Learning Lab, Department of Computer Science, College of Computing and Informatics, The University of North Carolina at Charlotte. 2008.

T4. G. Michael Youngblood and Chris A. Lance. "Zero Configuration Distributed Simulation." Technical Report CSE-2005-14. Computer Science and Engineering Department. The University of Texas at Arlington. 2005.

T3. G. Michael Youngblood, Edwin O. Heierman, Diane J. Cook, and Lawrence B. Holder. "Automated Hierarchical POMDP Construction through Data-mining Techniques." Technical Report CSE-2004-17. Computer Science and Engineering Department. The University of Texas at Arlington. 2004.

T2. G. Michael Youngblood, Lawrence B. Holder, and Diane J. Cook. "The MavHome Architecture." Technical Report CSE-2004-18. Computer Science and Engineering Department. The University of Texas at Arlington. 2004.

T1. Arthur A. Reyes, Atilla Dogan, José R. Espino, G. Michael Youngblood, Sami A. Musa, and Srinivas Somanchi. "Overview of the University of Texas at Arlington's Autonomous Vehicle Laboratory." Technical Report CSE-2003-13. Computer Science and Engineering Department. The University of Texas at Arlington. 2003.

I.4. Software and other non-traditional publications such as art or images

A3. G. Michael Youngblood and Priyesh N. Dixit. Research images on proceedings cover. Sandbox 2007 Conference.

A2. G. Michael Youngblood. Proceedings cover art for print and CD. AIIDE 2007 Conference.

A1. G. Michael Youngblood. Background art of a digital house in “The house of the future.” UTA Magazine. Vol. XXV No. 1 Fall 2002.

I1. G. Michael Youngblood. Photocredit for 6 Los Angeles photos (taken at SIGGRAPH 2001). Velky Atlas Sveta 13. Ceska Media Amercom: Prague, Czech Republic. 2002. 281–284.

I.5. Published Papers (non-refereed)

a.) Professional Society Magazines

None.

b.) Trade Publications

None.

c.) Research Project Final Reports

None.

I.6. Books in Preparation

None.

I.7. Patents Pending

None.

III. RESEARCH GRANTS (Principal Investigator or Co-Principal Investigator)

A. Approved and Funded

Title of Grant: DARPA Computer Science Study Group Phase 2
PI: **Michael Youngblood**
Funding Agency: DARPA
Amount Funded: \$488,862
Dates of Funding Period: 5/12/2008–5/11/2010

Title of Grant: DARPA Computer Science Study Group Phase 1
PI: **Michael Youngblood**
Funding Agency: DARPA
Amount Funded: \$76,680
Dates of Funding Period: 4/9/2007–4/8/2008

Title of Grant: Transfer Learning in Integrated Cognitive Systems
PI: Larry Holder
Co-PI(s): **Michael Youngblood**, Diane Cook, and Manfred Huber
Funding Agency: Subcontract with the Institute for the Study of Learning and Expertise (ISLE), DARPA Transfer Learning Program (BAA05-29 IPTO, Ted Senator)
Amount Funded: \$620,000
Dates of Funding Period: 10/1/2005–10/31/2006 (UT Arlington)

Title of Grant: Autonomous Vehicles Lab Activity Support Grant
PI: Atilla Dougan
Co-PI(s): Brian Huff, Arthur Reyes, Kamish Subbarao, and **Michael Youngblood**
Funding Agency: Bell Helicopter-Textron
Amount Funded: \$60,000
Dates of Funding Period: 1/1/2006–12/31/2006 (UT Arlington)

Title of Grant: Integration of a Cognitive Architecture and an Urban Warfare Simulator for the Evaluation of AI Methods
PI: Larry Holder
Co-PI(s): **Michael Youngblood**
Funding Agency: NRL (BAA 55-03-02, David Aha)
Amount Funded: \$75,500
Dates of Funding Period: 9/1/2004–8/31/2005 (UT Arlington)

B. Pending

Title of Grant: Leveraging Real-World Input Streams for Disaster Management Simulation
PI: **Michael Youngblood**
Co-PI(s): Richard Souvenir
Funding Agency: NSF (IIS III-CXT 06-572, Lawrence Brandt)
Amount Funded: \$450,000
Dates of Funding Period: 5/12/2008–5/11/2011

Title of Grant: Kutato: The Scientific Research Portal for Critical Dissemination of Methods, Data, and Evaluation (Collaborative Research)

PI: Istvan Jonyer, Oklahoma State University

Co-PI(s): **Michael Youngblood**

Funding Agency: NSF (IIS III-COR 06-572, Le Gruenwald)

Amount Funded: \$240,000

Dates of Funding Period: 9/1/2008–8/31/2011

C. Not Funded

Title of Grant: Understanding the Traditional Knowledge and Sensitivities of the Australian Indigenous People for Preservation and Dissemination through Interactive Computer Games

PI: Tiffany Barnes

Co-PI(s): **Michael Youngblood**

Funding Agency: UNC Charlotte Faculty Research Grant

Amount: \$12,000

Dates of Funding Period: 5/12/2008–5/11/2010

Title of Grant: An Extensible and Adaptive Intelligent Tutoring Systems for Current and Next-Generation Immersive Training Systems

PI: **Michael Youngblood**

Funding Agency: US Army (STTR A07-T003)

Amount: \$49,814

Dates of Funding Period: 9/1/2007–3/1/2008

Title of Grant: Comparative Informatics, Modeling, and Learning from Integrating Video Observation and Interactive Simulation Training in Disaster Scene Management

PI: **Michael Youngblood**

Co-PI(s): Richard Souvenir

Funding Agency: NSF (IIS III-CXT 06-572, Lawrence Brandt)

Amount: \$450,000

Dates of Funding Period: 9/1/2007–8/31/2010

Note: This proposal was rated as “fund if possible” by the NSF review committee.

Title of Grant: Urban Combat Testbed (UCT) for Modeling, Simulation and Assessment of MOUT Scenarios

PI: Larry Holder

Co-PI(s): **Michael Youngblood**

Funding Agency: U.S. Army (Natick BAA 05-07)

Amount: \$360,000

Dates of Funding Period: Not defined

Title of Grant: A General Real-Time Interactive Testbed for the Evaluation of Intelligent Systems

PI: Larry Holder

Co-PI(s): **Michael Youngblood**

Funding Agency: NSF (CNS CRI:CRD Collaborative Proposal, Tatiana D. Korelsky)

Amount Funded: \$288,645

Dates of Funding Period: 9/1/2007–8/31/2008

Title of Grant: Games4Learning Suite for Improving CS1 Education

PI: Tiffany Barnes

Co-PI(s): **Michael Youngblood**

Funding Agency: Microsoft Corporation (Games in Education, John Nordlinger)
Amount Funded: \$100,000
Dates of Funding Period: 9/1/2007–8/31/2008

Title of Grant: A Unified-Engineering Approach for the Development
of Autonomous Vehicular Systems Education

PI: Atilla Dogan

Co-PI(s): Brian Huff, Arthur Reyes, Kamish Subbarao, and **Michael Youngblood**

Funding Agency: NSF (DUE, Barbara N. Anderegg)

Amount Funded: \$149,864

Dates of Funding Period: 9/1/2006–8/31/2007 (UT Arlington)

Note: This same proposal was fully funded by the State of Texas in 2007-2008 for UT Arlington. The unified, inter-engineering senior design concept was Dr. Youngblood's idea.

Title of Grant: A New Cognitive Architecture for Robust Intelligence

PI: Larry Holder

Co-PI(s): **Michael Youngblood**

Funding Agency: NSF (IIS, Edwina L. Rissland)

Amount Funded: \$350,592

Dates of Funding Period: 9/1/2005–8/31/2006

IV. INVITED TALKS AND PRESENTATIONS

A. Conferences and Symposia

SPIE Optics East. "MavHome: Environmental Intelligence through User Modeling and Adaptation." Boston, MA. October 2006.

B. Universities, Industry, and Research Labs

Naval Research Labs. "The Common Games Learning and Understanding Toolkit." Washington DC. October 26, 2007.

In Spring 2006, Dr. Youngblood gave many talks on two primary subjects to a variety of universities during a job search. These two talks were entitled "Deconstructing the First-Person Shooter to Understand Human-Consistency and Transfer Learning to Create Better Artificially Intelligent Players" and "Learning to Automate the Intelligent Environment" and were presented based on the desire of the faculty search committee.

Fort Worth IEEE Section. "The Smart Home of Tomorrow, Today!" December 8, 2005.

The University of Texas at Austin. "Deconstructing the First-Person Shooter to Understand Human-Consistency and Transfer Learning to Create Better Artificially Intelligent Players." December 1, 2005.

The University of Texas at Arlington. "Planning Ahead." September 21 & 22, 2005. Talk given to introductory computer classes.

The University of Essex (UK). "Learning to Automate the Intelligent Environment." July 30, 2005.

The University of Hawai'i at Manoa. "Learning to Automate the Intelligent Environment." March 7, 2005.

C. Invited Participant

Microsoft Academic Days on Embedded Systems, Robotics, Windows Kernel and Sensor Nets. March 2007

Microsoft Academic Days on Game Development in Computer Science Education. February 2007

Microsoft Academic Days on Game Development in Computer Science Education. February 2006

V. EXTERNAL SERVICE AND RECOGNITION

A. Journal Editorships

None.

B. Conference Committees and Chairs

Treasurer, ACM SIGGRAPH Sandbox Symposium, Los Angeles, CA, 2008

Executive Conference Committee, Artificial Intelligence and Interactive Digital Entertainment (AIIDE), Stanford, CA, June 2007–2008 (2 years)

Co-Chair, Florida Artificial Intelligence Research Society Conference (FLAIRS), Special Track on AI in Games and Entertainment, Key West, FL, May 2007–2008 (2 years)

Co-Chair, Florida Artificial Intelligence Research Society Conference, Special Track on Decision Making in Real World Systems, Clearwater Beach, FL, May 2005

C. Service to Professional Societies

IEEE Task Force on Intelligent Ubiquitous Computing (IUC), Founding member.

D. Work as a Reviewer for Journals and Conferences

IEEE Computer Graphics and Applications Journal, 2008

Innovative Applications of Artificial Intelligence (IAAI) Conference, 2008
(Premier Conference, invitation only select committee)

Artificial Intelligence in Interactive Digital Entertainment (AIIDE) Conference, 2008 (Premier Conference)

Intelligent Environments Conference, 2008

Journal of Game Development, Charles River Media, 2007–2008

SB Games Conference, 2007–2008

Science of Computer Programming (Journal), Elsevier, 2006

International Joint Conference on Artificial intelligence (IJCAI), 2007

International Conference On Smart homes and Health Telematics (ICOST), 2006

IADIS Applied Computing, 2006

Florida Artificial Intelligence Research Society Conference, 2004–2008

ACS/IEEE International Conference on Computer Systems and Applications, 2004

IEEE International Conference on Pervasive Computing, 2002

E. Research Program Reviewer

None.

F. Other Professional Activities

Judge, UNC Charlotte Graduate Research Fair, 2007–2008 (2 years)

Judge, announcer, and assistant. UT Arlington High School Robotics Programming Contest (RoPro), 2002-2004

VI. ON-CAMPUS COMMITTEES AND ACTIVITIES

A. Departmental Committee Membership and Dates of Service

Infrastructure Committee, 2007–Present

B. College Committee Membership and Dates of Service

Honors Program Committee, CCI Member, 2007–Present

CCI Faculty Competitive Grants Committee, Alternate, 2008–Present

C. University Committee Membership and Dates of Service

Institutional Review Board (IRB), Fall 2006–Present

D. Special Assignments at UNC-Charlotte and Dates of Service

None.

E. Member of Ph.D. or M.S. Graduate Committees

Stephanie Preston (College of Architecture), Masters Committee

John Stamper, Ph.D. Committee

F. Administrative Duties Not Listed Elsewhere

None.

G. Student Organization Advisement

Gamer's Alliance (Eve Powell, Student Leader)

Student Game Enthusiast, Design, and Development Club (Fall 2006–Present)

(UT Arlington) Autonomous Vehicles Lab (Eric Pianori, Student Leader)

Advised payload engineering and pilot training program (Fall 2003–Summer 2006)

(UT Arlington) Joint Council of Engineering Organizations (2002–2003)

VII. OTHER CONTRIBUTIONS AND RECOGNITION

A. Special Activities not specified elsewhere

Supported *Games + Learning Lab* demonstrations for visitors and recruitment.

Spring 2008 Demos: 6, Fall 2007 Demos: 5

Spring 2007 Demos: 4, Fall 2006 Demos: 6

Supported the CMS Tech Connect Gaming Workshop on April 9, 2007. 14 students participated.

Supported the IEEE VR 2007 Conference UNCC Open House with game and game research demos.

Registered Engineer In Training (EI-TX, No. ET-28185)

Passed April 24, 1999, Fundamentals of Engineering Examination.

Actively seeking licensure as a Professional Software Engineer (TX).

B. Media Coverage

July 2005: WFAA Channel 8 Dallas, Texas *Texas Tales* segment on the UT Arlington Autonomous Aerial Vehicle Team and Lab.

January 2005: HGTV's American Home MavPad (UT Arlington) segment produced by NAHB's Jean Connelly.

C. Community Service and Activities

National Archery Association (NAA) Level I Archery Instructor (2001–Present)

Boy Scouts of America (BSA)

Assistant Scoutmaster for Huntersville Troop 74

Served as a trained BSA leader since 1996 (P593, P124, P399, T445, T127, T72)

District Merit Badge Counselor for Archery, Atomic Energy, Chemistry, Computers, Engineering, Public Speaking, Backpacking, Camping, Canoeing, Cinematography, Energy, and Orienteering

D. Awards Not Listed in Teaching Section

Annual Celebration of Excellence by Students Provost Award for Research 2005

Who's Who in American Colleges and Universities 2005

Tau Beta Pi Fellow 2002–2003

SIGART/AAAI/IJCAI Doctoral Consortium Selected Participant 2003

UTA Office of Research Award for the 5th Annual Symposium on Undergraduate Research and Creative Activity, First Place 1999

Dallas Technical Club Outstanding Engineering Senior for UTA 1999

Outstanding Honors College Student 1999

Outstanding Honors College Senior Thesis 1999

Tau Beta Pi Centennial Fellow 1999–2000 (selected but declined in order to work in industry)

Who's Who in Science and Engineering 1998–2000

Who's Who in American Colleges and Universities 1999

CSE Outstanding Academic Achievement Award 1999

Texas Telecommunication Consortium (TxTEC) Merit Scholar 1999

Computer Sciences Corporation (CSC) Merit Scholar 1997–1999

Who's Who in American Colleges and Universities 1998

Motorola Merit Scholar 1998

ACM/IBM Quest for Java Programming Contest 1997, Third Place

E. Honors

Sigma Xi

Tau Beta Pi — Texas Eta

Omicron Delta Kappa — Sincerus Orbis Circle

Upsilon Pi Epsilon — Texas Gamma

Golden Key International Honor Society

Dean of Engineering Distinguished Honor Roll (Spring 1997–Spring 1999)

VIII. MILITARY SERVICE

Branch: United States Navy

Active Duty: July 18, 1988 – August 1, 1996

Discharge: Honorable (RE-R1)

Net Active Service: 8 years and 14 days

Sea Service: 5 years and 11 months

Rank: Machinist's Mate First Class, Submarines – MM1(SS)

Grade: E-6

Primary Specialty:

- Submarine Nuclear Propulsion Plant Supervisor - Engineering Laboratory Technician (NEC MM3366, 6 years 2 months experience)
- Submarine Nuclear Propulsion Plant Operator - Mechanical (NEC MM3355, 6 years 5 months experience)
- Nuclear Propulsion Plant Maintenance Supervisor - Radiological Controls (NEC MM3376, 2 years 10 months experience)

Military Education:

- Navy Basic Training, 9 weeks, Sept. 1988
- Navy Alcohol/Drug Awareness Program, 1 week, Oct. 1988
- Nuclear Field School, MM Class "A" School, 13 weeks, Jan. 1989
- Naval Nuclear Power School, 24 weeks, Aug. 1989
- Nuclear Power Plant Operation on Prototype D1G, 26 weeks, Feb. 1990
- Engineering Lab Tech on Prototype D1G, 12 weeks, May 1990
- Navy Material Maintenance Management School, 1 week, Mar. 1992
- Radiological Controls Maintenance, 5 weeks, Sept. 1993
- Radioactive Material Shipper School, 1 week, May 1994
- Navy Leadership Development Class, 1 week, Sept. 1995
- Transition Assistance Program, 1 week, Feb. 1996

Medals and Decorations:

- Navy Achievement Medal
Awarded for excellence as a shipboard instructor leading to improved ship-wide performance on Nuclear Maintenance Capability Examinations
- Meritorious Unit Commendation
USS CANOPUS (AS-34) unit recognition for outstanding service as a repair facility while serving as a replacement for the USS EMORY S. LAND (AS-39) while she was undergoing her own maintenance in Portsmouth Naval Shipyard
- Submarine Service "SS" Warfare Pin
Qualified on Los Angeles Class Attack Submarines
- Good Conduct Medal and bronze star pin (second award)

- National Defense Service Medal

Tours of Duty:

- USS BOISE (SSN-764), New Construction Los Angeles Class Attack Submarine. Served aboard from initial manning, construction, through sea trails, commissioning, shakedown, and departed during post-shakedown availability in Newport News and Norfolk, VA. Plankowner. May 1990 – Aug. 1993
- USS CANOPUS (AS-34), Ballistic Missile Submarine Repair Tender. Served during normal operations in King's Bay, GA, and Norfolk, VA, through decommissioning. Decommissioned the Nuclear Support Facility. Last radiological supervisor attached prior to towing to Portsmouth Naval Shipyard. Sept. 1993 – Nov. 1994
- USS EMORY S. LAND (AS-39), Fast-attack Submarine Repair Tender. Served during normal operations serving Submarine Squadrons 6 and 8 in Norfolk, VA. Nov. 1994 – Aug. 1996

IX. Memberships

International Game Developer's Association (IGDA)

Digital Games Research Association (DiGRA)

Association for Computing Machinery (ACM)

Served as UT Arlington Student Chapter Chair (1998–1999), Vice Chair (1997–1998), and Secretary (1997)

Institute of Electrical and Electronic Engineers (IEEE)

IEEE-Computer Society (IEEE-CS)

ACM Special Interest Group on Computer Graphics (SIGGRAPH)

Served as the Dallas-Fort Worth Professional Chair (1999–2004)

Association for the Advancement of Artificial Intelligence (AAAI)

ACM Special Interest Group on Artificial Intelligence (SIGART)

Association for Unmanned Vehicle Systems International (AUVSI)

Academy of Model Aeronautics (AMA)

X. Citizenship

United States of America

Born in Atlanta, GA, USA

Hazelwood Qualified Texas Veteran

Honorary Citizen of Boise, ID, USA (Conferred by the Honorable Dirk Kempthorne)

XI. Security Clearance

U.S. Government DOD "SECRET" (active)