
James Adam Jones

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SUMMARY:

- PhD, MS, BS, & AA degrees in Computer Science & Engineering
- Dissertation Topic: Egocentric Depth Perception in Augmented & Virtual Environments
- Concentrations: Visualization & Graphics, Cognitive Science, Human-Computer Interaction
- Research Interests: Augmented & Virtual Environments, Perception, Vision, Head-Mounted Display Calibration, Visualization, Computer Graphics, Human-Computer Interaction, User Studies and Evaluation

EDUCATION:

Doctor of Philosophy in Computer Science & Engineering

Concentration: Visualization & Graphics, Human-Computer Interaction

Including Cognitive Science Certification

Advisor: J. Edward Swan II

December 2011

Mississippi State University, Starkville, Mississippi

Courses Taken Include:

Real-time Rendering	Cognitive Simulation
Theory of Computation	Game Design
Computer Science Curriculum Design	

Master of Science in Computer Science & Engineering

Concentration: Visualization & Graphics, Human-Computer Interaction

Advisor: J. Edward Swan II

August 2007

Mississippi State University, Starkville, Mississippi

Courses Taken Include:

Human-Computer Interaction	Sensation & Perception
Information Visualization	Functional Magnetic Resonance Imaging
Scientific Visualization	Visual Attentional Processes
Advanced Computer Graphics	Quantitative Methods in Psychology
Design of Parallel Algorithms	

Bachelor of Science in Computer Science & Engineering

Major: Computer Science, Minor: Software Engineering & Mathematics

December 2004

Mississippi State University, Starkville, Mississippi

Courses Taken Include:

Software Engineering	C/C++ Programming
Software Architecture & Design	Java Programming
Networks & Data Communications	Operating Systems
Engineering Administration	Computer Architecture
Computer Graphics	Microprocessors

Associate of Arts in Computer Science

Major: Computer Science

May 2002

Jones County Junior College, Ellisville, Mississippi

Courses Taken Include:

C/C++ Programming	Physics
Pascal Programming	Calculus

EXPERIENCE:

Mississippi State University

Instructor of Record, Graduate Teaching Assistant - Department of Computer Science & Engineering
January 2011 - December 2011

Mississippi State University, Starkville, Mississippi

- Served as instructor of record for *CSE-1233: Introduction to Computer Programming in C*
- Instructed 50+ undergraduate students per semester during Spring and Fall 2011 semesters
- Course was a 3 credit hour lecture with external programming assignments
- Gained experience designing lectures, programming assignments, quizzes, and examinations
- Supervised undergraduate teaching assistants

Mississippi State University

Research Assistant - Department of Computer Science & Engineering
August 2005 - Present

Mississippi State University, Starkville, Mississippi

- Built, from the ground up, an augmented reality research facility
- Worked in conjunction with the Naval Research Laboratory using the Battlefield Augmented Reality System (BARS)
- Conducted research with the NASA Ames Research Center in augmented reality
- Studied human-computer interaction, visual perception, human behavior, and AR/VR display technologies
- Conducted human subjects research in visual perception in augmented & virtual reality
- Researched and developed augmented & virtual reality applications
- Became proficient in designing, calibrating, and studying augmented & virtual environments
- Designed and constructed a table-top augmented reality display
- Received IRB certification to conduct research with human subjects
- Received MRI safety training for conducting research in a clinical environment

Institute for Neurocognitive Science & Technology

Systems Administrator Interim Systems Administrator
May 2007 - May 2008 April 2010 - October 2010

Mississippi State University, Starkville, Mississippi

- Maintained and supported a General Electric 3 Tesla Functional Magnetic Resonance Imaging (fMRI) system with Avotec patient response and stimulus presentation systems
- Developed Automated Image-based Signal Analysis and Quality Control System for research grade fMRI image acquisition
- Setup, configured, and maintained a high performance computing cluster
- Configured and maintained a high-density, high-resolution display wall for use in large scale data visualization
- Gained experience with OpenMPI, LAM/MPI, Chromium, and Distributed Multi-headed X (DMX) installation and configuration
- Developed machine vision, DICOM image analysis, and quality assurance software for use with research and clinical MRI systems
- Managed an equipment inventory of over \$3.5 million
- Gained proficiency in Apple Xserve and XRAID administration
- Supervised a staff of IT professionals in a hybrid clinical/research environment

John C. Longest Student Health Center

Assistant to the Systems Administrator
April 2003 - July 2005

Mississippi State University, Starkville, Mississippi

- Served as Acting Systems Administrator for 3 months
- Gained experience in Windows 2000 server administration
- Gained experience administering A4 Healthmatics and Enterprise Practice Management Systems
- Designed user interfaces for large scale, web-based medical applications
- Developed data exchange interface for use with Blue Cross Blue Shield electronic claims system
- Developed HIPPA compliant medical and regulatory applications
- Developed web-based applications in ASP, PHP, and Java
- Performed database administration in MySQL and Microsoft Access
- Received training in AED operation, CPR, and blood-borne pathogen awareness

Burton Computer Resources, Inc.

Web Developer and Graphic Designer
October 2001 - March 2003

Laurel, Mississippi

- Gained experience in Windows 2000 and IIS web server administration
- Developed e-commerce applications in ASP
- Designed customizable web-based applications for supply management
- Designed web sites in Microsoft FrontPage
- Designed graphics and animations in Adobe Photoshop and Macromedia Flash
- Performed database administration in Microsoft Access

Cybergate, Inc.

C/C++ & PHP Programmer, Web Developer, Technical Support
 August 1998 - October 2001
 Laurel, Mississippi

- Gained experience in Linux and Apache web server administration
- Gained extensive experience in CGI, PHP, JavaScript, and shell scripting
- Developed CGI, server-side, and administrative applications in C/C++
- Developed web and e-commerce applications
- Performed database administration in MySQL
- Designed graphics in Adobe Photoshop, Macromedia Flash, and GIMP
- Designed web sites in Adobe GoLive, Microsoft FrontPage, and NetObjects Fusion

PUBLICATIONS:

J. Adam Jones, J. Edward Swan II, Gurjot Singh, Stephen R. Ellis. 2011. Peripheral Visual Information and Its Effect on Distance Judgments in Virtual and Augmented Environments. *Symposium on Applied Perception in Graphics and Visualization*. Toulouse, France, pages 29-35.

J. Adam Jones, J. Edward Swan II, Gurjot Singh, Stephen R. Ellis. 2011. Peripheral Visual Information and Its Effect on the Perception of Egocentric Depth in Virtual and Augmented Environments. *IEEE Virtual Reality Conference*. Singapore, pages 215-216.

Gurjot Singh, J. Edward Swan II, **J. Adam Jones**, Stephen R. Ellis. 2011. Depth Judgment Tasks and Environments in Near-Field Augmented Reality. *IEEE Virtual Reality Conference*. Singapore. pages 241-242.

Gurjot Singh, J. Edward Swan II, **J. Adam Jones**, Stephen R. Ellis. 2010. Depth Judgment Measures and Occluding Surfaces in Near-Field Augmented Reality. *Symposium on Applied Perception in Graphics and Visualization*. Los Angeles, California, pages 149-156.

J. Adam Jones, J. Edward Swan II, Gurjot Singh, Joshua Franck, Stephen R. Ellis. 2009. The Effects of Continued Exposure to Medium Field Augmented and Virtual Reality on the Perception of Egocentric Depth. *Symposium on Applied Perception in Graphics and Visualization*. Crete, Greece, page 138.

Gurjot Singh, J. Edward Swan II, **J. Adam Jones**, Joshua Franck, Stephen R. Ellis. 2009. Depth Judgment Measures and Occluders in Near-Field Augmented Reality. *Symposium on Applied Perception in Graphics and Visualization*. Crete, Greece, page 127.

J. Adam Jones, J. Edward Swan II, Gurjot Singh, Stephen R. Ellis. 2008. The Effects of Virtual Reality, Augmented Reality, and Motion Parallax on Egocentric Depth Perception. *Symposium on Applied Perception in Graphics and Visualization*. Los Angeles, California, pages 9-14.

J. Adam Jones, J. Edward Swan II, Gurjot Singh, Eric W. Kolstad. 2008. The Effects of Virtual Reality, Augmented Reality, and Motion Parallax on Egocentric Depth Perception. *IEEE Virtual Reality Conference*. Reno, Nevada. pages 267-268.

J. Adam Jones. 2007. Egocentric Depth Judgments in Optical See-Through Augmented Reality. *Master Thesis*. Mississippi State University.

J. Edward Swan II, **J. Adam Jones**, Eric W. Kolstad, Mark A. Livingston, Harvey S. Smallman. 2007. Egocentric Depth Judgments in Optical See-Through Augmented Reality. *IEEE Transactions on Visualization & Computer Graphics (TVCG)*. 13, 3, pages 429-442.

J. Adam Jones, Eric W. Kolstad. 2006. Egocentric Depth Perception in Augmented Reality. *Institute for Neurocognitive Science & Technology Research Forum*. Starkville, Mississippi.

PRESENTATIONS:

Invited Presentation: Going With The Flow: Motion-based Visual Cues in the Extreme Periphery and Their Effect on Distance Judgments in Virtual & Augmented Reality, *School of Interactive Arts & Technology - Simon Fraser University*, Vancouver, BC, Canada.
 Date: November 24, 2011

Invited Presentation: External Visual Cues and Their Effect on Walked Distance Judgments in Virtual and Augmented Environments, *NASA Ames Research Center*, Moffett Field, California.
 Date: November 22, 2011

Going With The Flow: Distance Judgments in Virtual Reality, Augmented Reality, and the Real-World, *Applied Cognitive Science Seminar Series*, Mississippi State University, Mississippi.
 Date: October 28, 2011

Graphics: Making Games Look Good, *Starkville High School Game Design Club*, Starkville, MS.
 Date: October 25, 2011

A Mostly Visual Introduction to Augmented and Virtual Reality, *Association of Computer Machinery (ACM) Student Chapter*, Mississippi State University, Mississippi.
 Date: September 20, 2010

Experiences Abroad - Japanese Technology & Culture, *A Colloquia: Understanding More About Japanese Culture, Business, and Information Technology*, Sponsored by the Japan Foundation and Mississippi State University, Mississippi State University, Mississippi.

Date: August 19, 2010

Virtual & Augmented Environments: A Matter of Perception, *Imaging Media Research Center - Korea Institute for Science & Technology*, Seoul, South Korea.

Date: May 4, 2010

Invited Guest Lecture: A Review of the AR Lab's Perceptual Experiments in Virtual & Augmented Environments. *CSE-8283: Empirical Software Engineering*, Mississippi State University, Mississippi.

Date: April 1, 2010

Depth Judgments and Adaptation in Augmented and Virtual Reality. *Empirical Software Engineering Research Group*, Mississippi State University, Mississippi.

Date: November 2, 2009

Visual Perception in Augmented and Virtual Environments. *Graduate Seminars in Computer Science*, Mississippi State University, Mississippi.

Date: October 7, 2009

Invited Guest Lecture: Perceptual Cues in Visual Presentations. *CSE-6990: Principles of Digital Visual Communication and Analysis*, Mississippi State University, Mississippi.

Date: September 4, 2009

Invited Guest Lecture: Studying Human Perception in Virtual and Augmented Reality. *ECE-8990: Level of Detail and Virtual Environments*, Mississippi State University, Mississippi.

Date: March 26, 2009

Augmented and Virtual Reality: A Matter of Perception. *Graduate Seminars in Computer Science*, Mississippi State University.

Date: November 10, 2007

Depth Perception in Augmented and Virtual Reality. *Applied Cognitive Science Seminar Series*, Mississippi State University.

Date: September 7, 2007

Egocentric Depth Judgments in Optical See-Through Augmented Reality. *Applied Cognitive Science Seminar Series*, Mississippi State University, Mississippi.

Date: November 17, 2006

Egocentric Depth Judgments in Optical See-Through Augmented Reality. *Institute for Neurocognitive Science & Technology Colloquium*. Mississippi State University, Mississippi.

Date: October 26, 2006

PROFESSIONAL SERVICE:

Organizing Committee, Publications Co-Chair, *IEEE Virtual Reality Conference*, 2012.

Organizing Committee, Publications Co-Chair, *IEEE Virtual Reality Conference*, 2011.

Organizing Committee, Publications Co-Chair, *IEEE Virtual Reality Conference*, 2010.

Student Volunteer, *IEEE Virtual Reality Conference*, 2010.

Reviewer, *IEEE Virtual Reality Conference*, 2012.

Reviewer, *IEEE Virtual Reality Conference*, 2011.

Reviewer, *IEEE Virtual Reality Conference*, 2010.

Reviewer, *IEEE Virtual Reality Conference*, 2006.

Reviewer, *International Symposium on Mixed & Augmented Reality*, 2011.

Reviewer, *International Symposium on Mixed & Augmented Reality*, 2010.

Reviewer, *International Symposium on Mixed & Augmented Reality*, 2009.

Reviewer, *International Symposium on Mixed & Augmented Reality*, 2007.

Reviewer, *International Journal of Human-Computer Studies*, 2011.

Reviewer, *International Journal of Human-Computer Studies*, 2009.

Reviewer, *International Journal of Human-Computer Studies*, 2008.

UNIVERSITY
SERVICE:

Institute for Neurocognitive Science & Technology Steering Committee, 2007-2008.

Imaging Center of Excellence Quality Control Group, 2007-2009.

Institute for Imaging and Analytical Technologies Host: Social Sciences Research Center - University of Catania (Sicily, Italy) Visiting Student Program, *Mississippi State University*, October 2010.

Guest Instructor - CSE-3813: Formal Languages, *Mississippi State University*, August 24-26, 2011.

Guest Instructor - CSE-4413/8413: Computer Graphics, *Mississippi State University*, October 25-28, 2010.

Guest Instructor - CSE-3981: Computer Ethics, *Mississippi State University*, October 13, 2010.

MSU Liaison - Future Exchange Student Meeting, *Mississippi State University/Sookmyung Women's University (Seoul, South Korea)*, May 2010.

Aided in redesign of Computer Science & Engineering introductory curriculum, *Mississippi State University*, 2010.

MSU Globe Trotters - Office of International Education, *Mississippi State University*, 2009-2011.

Korean Exchange Student Orientation Volunteer, *Mississippi State University*, August 2009.

Forum Moderator: Leadership Styles and Successful Leaders in Korea and the U.S., *Kwangwoon University (Seoul, South Korea)*, May 2009.

HONORS &
AWARDS:

Spirit of State University Service Award - Highest Student Honor, *Mississippi State University*, April 2010.

Global Leadership Program Awardee - Korea & Hong Kong Study Abroad Program, *Mississippi State University & Kyungpook National University (Daegu, South Korea)*, 2010.

Department of Computer Science & Engineering Spotlight Graduate Student, *Mississippi State University*, September 2009.

Global Leadership Program Awardee - Korea & Japan Study Abroad Program, *Mississippi State University & Kwangwoon University (Seoul, South Korea)*, 2009.

Study Abroad Photography Contest - General Display Winner, *Mississippi State University*, 2009.

Office of Research & Economic Development: Outstanding Research Award Nominee, Department of Computer Science & Engineering, *Mississippi State University*, 2009.

Graduate Student Association Research Award Nominee, Department of Computer Science & Engineering, *Mississippi State University*, 2009.

Bagley College of Engineering Outstanding Research Paper Award, received by J. Edward Swan II, for the paper *Egocentric Depth Judgments in Optical, See-Through Augmented Reality*, 2008.

Eagle Scout, *Boy Scouts of America*.

Order of the Arrow, Brotherhood member, *Boy Scouts of America*.

Phi Theta Kappa Honor Society, member.

RESEARCH &
ACADEMIC
PROJECTS:

Peripheral Visual Cues and Their Effect on The Perception of Egocentric Depth in Virtual and Augmented Environments, *Doctoral Dissertation Project*.

Apokoliptoscope: A Table-top Augmented Reality Display, *Doctoral Dissertation Sub-Project*.

Nonius Apparatus for the Measurement of Dark Vergence, *Doctoral Dissertation Sub-Project*.

Egocentric Depth Perception in Optical See-Through Augmented Reality, *Master Thesis Project*.

3D Compass: Novel Calibration Method for Augmented Reality, *Master Thesis Sub-Project*.

MRI Image-based Signal Analysis & Quality Assurance System, *Institute for Neurocognitive Science & Technology, Mississippi State University*.

Occupational Health & Safety Evaluation for Animal Users, *John C. Longest Student Health Center, College of Veterinary Medicine, Office of Regulatory Compliance, Mississippi State University*.

Health Interventions That Matter (HITM), *John C. Longest Student Health Center, Mississippi State University*.

Real-Time Radiosity with Programmable Shaders in GLSL, *ECE-8990 - Real-Time Rendering*.

G.O. Gadget: A Gene Ontology Tool, *CSE-6663 - Human-Computer Interaction*.

Spiral Graph: Information Visualization for Intrusion Detection, *CSE-8990 - Information Visualization*.

Isosurfacing for Volume Visualization, *CSE-8413 - Scientific Visualization*.

Ray Casting for Direct Volume Rendering, *CSE-8413 - Course: Scientific Visualization*.

Texture-based Volume Rendering, *CSE-4413 - Introduction to Computer Graphics*.

High Order Interpolation in Volume Visualization, *CSE-8413 - Scientific Visualization*.

Ray Tracing for Photorealistic Rendering, *CSE-8433 - Advanced Computer Graphics*.

Mythbusters: The Rise of Buster - A Motion Tracked Game for Large Scale Displays, *CSE-6990 - Game Design*.

Battlefield Playground - A Video-based Motion Tracking Game Implemented with Off-The-Shelf Components, *CSE-6990 - Game Design*.

xkcd: The Game - A Side-scrolling Action and Strategy Game, *CSE-6990 - Game Design*.

TCP/UDP Server and Client Applications, *CSE-4153 - Data Communications & Networks*.

BAM: A RISC Processor Simulator, *CSE-4113 - Computer Architecture*.

C-Small Scripting Language Interpreter, *CSE-4713 - Programming Languages*.

Breakout: Threaded Graphics in Java, *CSE-2324 - Computer Science III*.

AFFILIATIONS:

Association of Computing Machinery, 2010 - Present.

Human Factors and Ergonomics Society - MSU Student Chapter, 2010 - Present.