

GLORIA WASHINGTON, Ph.D.

CONTACT: 202-640-3630

Email: gjwashi@gmail.com

EDUCATION: Ph.D. Computer Science, The George Washington University, Washington, DC, 2011
Research interests include human-computer interaction, human-centered computing, and affective computing. (*National Honor Society member, Dissertation Title: Understanding the impact of user frustration intensities on task performance using a novel adaptation of the OCC theory of emotions*)

M.S. Computer Science, The George Washington University, Washington, DC, 2003
Research interests include multimedia instructional training and design, human-computer interaction, artificial intelligence and human & machine cognition.

B.S. Computer Information Systems, Lincoln University, Jefferson City, MO, 2000
Participated in collaborative internship through Lincoln University and Texas A&M University assisting professors of Botany and Biology design, develop, maintain, and support an interactive webpage showcasing the research initiatives of the Texas A&M Agricultural Extension Center. (*Graduated cum laude*)

ACADEMIC EXPERIENCE:

Intelligence Community Postdoctoral Researcher, Clemson University, Clemson, SC March 2013

– Present

- Researched the state-of-the-art of recognizing ears in two-dimensional images
- Presented state-of-the-art methods for recognizing ears in two-dimensional images at annual IC Postdoctoral Workshop 2013
- Implemented ear recognition methods using image processing software like Matlab and libraries like OpenCV.
- Created technical reports outlining progress of implementation of ear recognition methods

Postdoctoral Researcher, The George Washington University, Washington, DC April 2011 – November 2011

- Performed research on current graduation rate of students in the STEM fields within the GaUGe Alliance (Gallaudet University, University of the District of Columbia, and George Washington University AGEP Alliance)
- Performed research over existing university alliances that have successfully applied for the NSF program Alliance for Graduate Education and the Professoriate (AGEP) that seeks to increase the amount of minorities and students with disabilities obtaining PhDs in STEM fields.
- Researched waypoints, metrics, milestones, and mentoring activities implemented within successful AGEP alliances.
- Assisted in writing the GaUGe Alliance proposal submission for the NSF AGEP program.

Instructor, The George Washington University, Washington, DC, January 2008 – May 2008

- Taught CS 10, Introduction to Application Software for non-computer science majors.
- Created lesson plans and lab exercises for class materials.
- Graded quizzes, exams, and lab exercises submitted by students.

Computer Science Department Grader, The George Washington University, Washington, DC, Spring 2003

- Graded Java Swing programming assignments for CS 187 Design of User Interface – Programming.
- Assisted and tutored undergraduate students by providing help with Java Swing.

Grants Awarded:

- Booz Allen Hamilton Center of Excellence- \$20,000

Service:

1. Paper reviewer. Human Factors in Computers Systems Conference (CHI) 2013 -2015.
2. Paper reviewer. Intelligent User Interfaces Conference, 2015.
3. Paper reviewer. Privacy Enhancing Technologies Symposium July 16–18, 2014.

PUBLICATIONS:

1. G. Washington. *Quantifying Negative Affect: Usability Testing to Observe the Effect of Negative Emotions on User Productivity Through the Use of BioSignals and OCC Theory*. ACM SIGCHI International Conference on Physiological Computing, Feb 11-13, 2015.
2. G. Washington. *Towards Understanding the Impact of Frustration on Performance*. Conference on Human Factors Mentoring Workshop, April 14, 2010.
3. G. Washington. Understanding the impact of user frustration intensities on task performance using a novel adaptation of the OCC theory of emotions. 2011, dissertation.
4. G. Washington. *Leveraging Human-body based Measures to Assess Task Performance in HCLs*. Department of Defense Human Factors Technical Advisory Group Meeting. October, 2011.
5. G. Washington. *Does User Frustration Really Decrease Task Performance?* To be published in Conference Proceedings for the Applied Human Factors Ergonomic Conference and 1st International Conference on Affective and Pleasurable Design. San Francisco, CA. July 21 – 25, 2012.
6. G. Washington. *Understanding the impact of user frustration intensities for modeling and simulation*. Modeling and Simulation World Conference - Human Track Proceedings, September, 2011.
7. G. Washington & R. Price Jones. *The State of the Art of Detecting User Frustration Through Physiological Indicators of Frustration – George Washington Technical Report*. 2006.

PROFESSIONAL EXPERIENCE:

Lead Information Systems Engineer, The MITRE Corporation, McLean VA, September 2011 – Present

Projects participated on at MITRE are in chronological order below.

MITRE Center of Excellence Research (Sept 2011 – January 2012)

- Performed research on the use of semantic technologies and their application in discovery of intelligence which led to internal MITRE technical report: *The Role of Semantic Technologies for Intelligence Analysis for the IC and and DOD Communities*
- Performed research on social signals in intelligence analysis and social signal processing which led to the internal MITRE technical report: *Discovery of Social Signals for Intelligence Analysis*

NCE Contract (Sept 2011 – January 2012)

- Examine existing web applications throughout the Government sponsor to create improved productivity and efficiency of time resources utilizing human-factors engineering and design principles.

SFC Contract (Sept 2011 – June 2012)

- Leverage human-centered design process and software development skills to deliver a working prototype dashboard to showcase the most important, useful information for task leaders within the SFC organization

PURPLEHAZE Contract (Sept 2011 – May 2013)

- Research relevant publications and articles related with human-centered design and human factors for translation technologies.
- Assist in researching collaborative shared data dictionaries and their use in improving performance of the human translator across translation assignments.
- Assist the organization with performing research on collaborative tools for tracking translators thought process across translation assignments,
- Assist in human-centered design study related to translation technologies and document layout, feature disablement/enablement, and other factors associated with the translation tool's user interface for improved translation products.
- Assist in research of OCR and machine translation tools for improved translation products

Associate, Booz Allen Hamilton, Annapolis Junction, MD, October 2003 – August 2011

Projects participated on at BAH are in chronological order below.

ROSE Contract (March 2010 – Sept 2011)

- Research scientific articles on scientometrics, scientific technology emergence, human factors engineering, automatic hypothesis generation, and structured argumentation for display of hypotheses supporting/disproving the emergence of a technology
- Develop request for information (RFIs) for the client to gain more insight into data visualization methods for representing structured argumentation, hypothesis generation, and evidence representations
- Utilize knowledge of Government acquisitions process to purchase equipment and services for the customer
- Manage financial reports, maintained financial status, and expense reports for the customer
- Assist in development of program budgets and spend plans for the customer
- Assist in creation of statements of work (SOW) and task statements for services provided outside of the organization

JOURNEYMAN Contract (Apr 2008 – March 2010)

- Serve as task lead for team working to develop instructional software for Government use.
- Subject matter expert in human factors engineering and instructional software design.
- Participate in monthly review of financial statements utilizing EVM that are delivered to the Government client.
- Work with systems engineers to convert data gathered from end-user feedback into system requirements.
- Consult on various projects to help the development team understand how to assist the user in accomplishing tasks more effectively and efficiently.
- Develop WBSs and work packages for tasks accomplished by the Training team

CES CPC Contract (November 2007 – March 2008)

- Served as subject matter expert in human factors engineering and software engineering
- Work with team-members to develop working requirements for an database-driven application designed for intelligence analysts.
- Work closely with Government clients to determine the best implementation for database-driven applications.
- Consult with various Government and commercial clients to determine the effects of interface design on the users' experience; particularly user productivity, usability, and job satisfaction.

- Utilize LiveLink workflow applications to create automatic applications for the customer to approve and reject Common Criteria documents loaded into the database-driven application.

Multimedia Processing Contract and MACE Technical Task Order (October 2003 – October 2007)

- Develop software applications in Java, JavaScript, php, C#, and C++.
- Subject matter expert in human factors engineering
- Technical task lead for Government contract at the Department of Defense involving researching applications related to natural language processing (NLP) and artificial intelligence (AI).
- Collaborate with Government clients to compile white-papers and technical reviews of current technologies in NLP and AI.
- Work along-side development team to incorporate human-factors heuristics into the graphical user interface of an application.

Computer Specialist, Department of Defense, Fort George G. Meade, MD, 2001 – September 2003

- Researched, evaluated, and applied various information visualization technologies.
- Utilized SEI CMM practices along with ISO software standards compliance while developing a software quality assurance plan of action.
- Researched and assisted in development of biometric technologies using C# and MatLab.
- Developed interactive, dynamic webpages using Java and JavaScript.
- Researched, designed, and developed interactive software to remind and reiterate to users their commitment to uphold security measures set forth by certain business rules.
- Research and apply knowledge of biometric technologies to advance the Government's ability to protect classified information.
- Work in biometrics wing of the Dept. of Defense researching scientific and technology literature related to fingerprint, ear recognition, and iris recognition biometric technologies.

Intern/Cooperative Student/Computer Specialist, Environmental Protection Agency, Kansas City, KS, 1998 – 2002 (Summers)

- Researched, designed, and developed various web applications using Java and JavaScript.
- Assisted and supported information technology help-desk personnel.
- Researched, evaluated, and authored several reports about different computer security technologies.

CERTIFICATIONS: Certified Project Management Professional, PMP Number 1250731

PROFESSIONAL MEMBERSHIPS: Association of Computing Machinery Member

HONORS: National Physical Science Consortium Fellowship recipient, Recognized in *Who's Who among Colleges and Universities*

TECHNOLOGIES: **Image Processing Software:** MatLab, OpenCV
Programming Languages: C++, COBOL, Java, JavaScript, MatLab, Macromedia Director's Lingo Script, Pascal, PHP, Visual Basic, and SQL
Geographical Information Systems Knowledge: AcrView and ArcInfo
Graphical Design Knowledge: Adobe Photoshop, Illustrator, and Animator, Macromedia Director
Database Knowledge: mySQL, Microsoft Access, .NET, and Oracle 9i Enterprise Edition

Web Development Knowledge: Macromedia Dreamweaver, Fireworks, and PhotoShop

Workflow Knowledge: LiveLink, Documentum and Oracle System Workflows