

# ROBERT H. HOLDER, III

6045-2 Majors Lane Columbia, MD 21045

(410) 908-5280

holder1@umbc.edu

## EDUCATION

**Doctor of Philosophy in Computer Science**, expected December 2012      GPA: 3.6/4.0

University of Maryland Baltimore County, Baltimore, MD

Thesis: "*Rapid Plan Adaptation in Real-time, Dynamic Environments Through Problem Space Analysis*"

Advisors: Drs. Timothy Finin and Marie desJardins

**Master of Science in Computer Science**, December 2000      GPA: 3.6/4.0

Tulane University, School of Engineering, New Orleans, LA

Thesis: "*Modeling Databases Containing Uncertainty with XML*"

Advisor: Dr. Frederick Petry

Dean's Honor Scholarship recipient, Tulane Engineering/Computer Science Honor Society Member

**Bachelor of Science in Computer Science**, May 1999      GPA: 3.2/4.0

Tulane University, School of Engineering, New Orleans, LA

Dean's Honor Scholarship recipient, National Achievement Scholarship recipient,

Tulane Engineering/Computer Science Honor Society Member, Academic Dean's List (four semesters)

## PROFESSIONAL EXPERIENCE

**Computer Scientist & Software Engineer**, August 2000-current  
Johns Hopkins University Applied Physics Laboratory, Laurel, MD

- Research and apply artificial intelligence techniques to complex planning, scheduling, and resource allocation problems. Domains include fluid system management, rapid reallocation of computing resources (**technical lead**), mine-like object visitation, and mobile sensor scheduling.
- Design and implementation of web architectures utilizing web services, Java Servlets, JSP, JDBC, SQL, XML, KML, Google Earth, Oracle, MySQL. Domains include improvised explosive device (IED) threat reduction, biological experiment data collection for anthrax identification, space data resource access, satellite communication request submission (**technical lead**), and dynamic resource brokering (**technical lead**).
- Design and implementation of middleware architectures and applications utilizing Java, C++, and MATLAB to support inter-satellite management system communication, computer vulnerability information retrieval, biological experimental analysis, and automated policy document management.

**Intern Software Engineer**, Summers 1997, 1998, 1999  
General Electric Medical Systems, Mount Prospect, IL

- Designed and implemented internationalization of the GE WebLink web application using Java, JavaScript, LiveConnect, DHTML, CSS, and HTML.
- Integrated the IBM MedSpeak ActiveX Control 2.0 with Java via CORBA and a COM/CORBA bridge. Integrated this functionality into the GE Platinum application.

## TEACHING EXPERIENCE

**Instructor**, Fall 2012  
University of Maryland Baltimore County, Baltimore, MD  
CMSC 100- Introduction to Computer Science

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## **Instructor**, Spring, Summer, Fall 2008

University of Maryland Baltimore County Training Center, Baltimore, MD  
Information Technology SL-110 - Fundamentals of the Java Programming Language  
Information Technology SL-275 - Java Programming LanAdvanced Java Programming

## **Adjunct Professor**, June 2002 – August 2004

Johns Hopkins University Whiting School of Engineering, Laurel, MD  
Engineering and Applied Science Programs for Professionals  
Computer Science 605.202 - Data Structures

## **Adjunct Professor**, Fall 1999

Tulane University, School of Engineering, New Orleans, LA  
CPSC 319-01 - Symbolic Computing (concepts and syntax of the Scheme variant of Lisp)

## SELECTED PUBLICATIONS

B. Bauer, D. Scheidt, P. Rosendall, N. Rolander, **R. Holder**, E. Schmidt, and F. Ferrese. "Evaluating Test Methods for a Complex Connected System." American Institute of Aeronautics and Astronautics, March 2011.

**R. Holder**. "Problem Space Analysis for Plan Library Generation and Algorithm Selection in Real-time Systems." In Proceedings of The 23rd International FLAIRS Conference. May 2010. *Best Poster Award*.

**R. Holder** and R.S. Cost. "Utilizing Resource Brokering Within Virtual Environments to Support Distributed Collaboration and Rapid Team Configuration." Proceedings of the 14<sup>th</sup> ICCRTS, June 2009.

**R. Holder** and R.S. Cost. "Challenges of resource integration for C2 collaborations within virtual environments." Proceedings of 2008 Proteus Futures Academic Workshop, September 2008, Carlisle, PA.

R. Daley, **R. Holder**, I.-J. Wang, J. Pistole, M. Dale, C. Pascale, H. J. Siegel, E. K. P. Chong, A. A. Maciejewski, V. Shestak, and D. Marinescu. "Representation and evaluation of complex options within mission plans and contingency plans," presented at 74th Military Operations Research Society Symposium (MORSS), Colorado Springs, Colorado, June 13-15, 2006.

## SERVICE

- **Reviewer**, Autonomous Agents and Multiagent Systems (AAMAS) conference, 2009.
- **Board Member**, Preston Mitchum, Jr Foundation, 2009-current. Develop curriculum for Scratch-based after-school computer programming clubs for grades 3 through 12.
- **Peer Mentor**, UMBC Computer Science Department, 2006-07. Contributed to the development of a department orientation program for incoming graduate students.
- **President**, Johns Hopkins University Black Faculty & Staff Association, 2006-07. Led Hopkins-wide, multi-campus organization. Provided policy feedback and recommendations to Hopkins administration. Facilitated programs to support professional and personal development to campus membership and surrounding community.
- **Peer Mentor**, University of Maryland Tri-campus PROMISE program, 2005-current.
- **Pre-College Initiative Chair**, National Society of Black Engineers, BMAC Chapter, 2000-current. Facilitate weekly after-school program for high school students interested in engineering.

## AWARDS

- Merit Award, Johns Hopkins Applied Physics Laboratory, 2011
- Pre-College Initiative Chair Award, NSBE-BMAC, 2010
- Diversity Recognition Award, Johns Hopkins University, 2007
- Verizon Fellowship, 2005-06