

## Ms. Kavita Krishnaswamy

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### EDUCATION:

**Ph. D. Candidate**, Computer Science

University of Maryland, Baltimore County (UMBC)

Dissertation Title: *Increased Autonomy with Robotics for Daily Living*

National Science Foundation Graduate Research Fellow

National Academy of Sciences, Ford Foundation Predoctoral Fellow

Fall 2009 – Present

Expected Graduation – May 2017

GPA:4.0/4.0

**B. S.**, Computer Science and Mathematics (Dual Major)

University of Maryland, Baltimore County

Robert and Jane Meyerhoff Scholar, University Scholar, Summa Cum Laude

December 2007

GPA:4.0/4.0

### SKILLS:

*Programming Languages:* Java, C/C++, C#, Python, JavaScript, HTML/CSS, SAS, PHP, OpenGL, WebGL

*Databases:* Oracle SQL & PL/SQL, MySQL

*Operating Systems:* Linux, Unix, Windows, Mac OS

*IDEs:* Eclipse, NetBeans, Microsoft Visual Studio

*Softwares:* Microsoft Office, Visual Basic, Blender, Adobe Flash, Autodesk 3ds Max, ROS

*Methodologies:* Black, white, and gray box quality assurance testing

### RELEVANT EXPERIENCE:

**Rehabilitation Robotist, Human Engineering Research Laboratories, University of Pittsburgh, 05/13 – 09/13**

- Designed and developed interface with C# and OpenGL to control Jaco robotic arm for kitchen tasks
- Created conceptual 3D models and animations for the robot and kitchen with Autodesk 3ds Max
- Mentor: Dr. Dan Ding

**Artificial Intelligence Researcher, Knexus Research, 06/12 – 09/12**

- Planned and built a dynamic Java GUI to control robots on simulated military missions
- Incorporated the JIDE Docking Framework and JfreeChart package for dockable framework and charts

**Robotics Interaction Researcher, Alliance for Access to Computing Careers, 06/11 – 09/11**

- Implemented an accessible web interface to control a simulated robotic hand using WebGL
- Designed interface with 3D graphical models, animations, and effects with Blender and JavaScript

**Web/Graphic Design Consultant, Silver Hill Technology, 05/08 – 08/09**

- Designed several websites for publicizing information and services
- Created graphic images and animations using Photoshop and Flash

**Research Assistant, Computer Science Department, UMBC, 02/04 – 09/04**

- Classified data sets with through image ranking on Waikato Environment for Knowledge Analysis
- Re-implemented a pairwise preference learning algorithm to identify subset of Mars rover images

**Software Intern Engineer, IBM Business Consulting Services, via ENTRYPOINT!, 06/03 – 09/03**

- Documented product details of HyPerformix model that computed CPU asymptotic performance
- Debugged Visual Basic programs and learned XML to create an online chat room

### AWARDS:

- Governor O'Malley's appointee to the Maryland Commission on Disabilities, 2009 – 2014
- Louis Stokes Alliance for Minority Participation Bridge to the Doctorate Fellow, 2009 – 2011

### PUBLICATIONS:

- Kavita Krishnaswamy and Tim Oates, "Pathway to Independence: Past, Present, and Beyond via Robotics," in *Disability Informatics and Web Accessibility for Motor Limitations*, 2014.
- Kavita Krishnaswamy and Ravi Kuber, "Toward the Development of a BCI and Gestural Interface to Support Individuals with Physical Disabilities," in *Proceedings of the 14th International ACM SIGACCESS Conference on Computers and Accessibility*, October 2012.
- Kavita Krishnaswamy, Jennifer Sleeman, and Tim Oates, "Real-Time Path Planning for a Robotic Arm," in *Proceedings of the 4th International Conference on Pervasive Technologies Related to Assistive Environments*, May 2011.