

JOSHUA HAILPERN

Doctor of Philosophy Candidate in Computer Science

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EDUCATION

- 2006 - Present *University of Illinois at Urbana Champaign, Urbana, IL*
Doctor of Philosophy in Computer Science
Focus: Human-Computer Interaction
Dissertation Topic: *Encouraging Speech and Vocalization in Children with Autistic Spectrum Disorder*
Advisor: Karrie G. Karahalios
- Winter 2008 *University of Illinois at Urbana Champaign, Urbana, IL*
Master of Science in Computer Science
Focus: Human-Computer Interaction
Master's Thesis: *The Spoken Impact Project: Using Audio & Visual Feedback to Impact Vocalization in Non-Verbal Children with Autistic Spectrum Disorder*
Advisor: Karrie G. Karahalios
- 2006 *Carnegie Mellon University, Pittsburgh, PA*
Bachelor of Science in Computer Science with Honors
Minor in Music Technology
GPA: 3.23/4

HONORS & AWARDS

- Spring 2010-
Spring 2012 *Dennis Weatherstone Fellow*
Predocutorial Fellowship Presented by Autism Speaks
Visualizing Voice (Proposal #6312)
- Spring 2009 *Mavis Memorial Fund Scholarship Award*
Champaign, IL.
- Fall 2007 *Selected to Present Doctoral Consortium Research Contribution at ASSETS Main Conference*
Sole student selected (1 out of 10)
ACM SIG ACCESS's ASSETS Conference 2007
Tempe, AZ.
- Spring 2007 *3rd place in Siebel Computing Habitat Competition*
TEAM STORM: TEAM Support Tool Oriented to Realization of Multiple ideas
Urbana-Champaign, IL.
- Spring 2007 *Honorable Mention for NSF's Graduate Research Fellowship*
- Fall 2006 *1st place in ACM Graduate Student Research Competition*
WISE: a Wizard Interface Supporting Enhanced usability
ACM SIG ACCESS's ASSETS Conference, 2006
Portland, OR.
- Fall 2006 -
Spring 2007 *Cultural Computing Fellowship*
Department of Computer Science at the University of Illinois at Urbana Champaign
Urbana-Champaign, IL.

- 2006 *Senior Leadership Award*
Carnegie Mellon University
Pittsburgh, PA.
- 2002 *4th place in Computer Science*
Ceebler: An HTTP Proxy for Secure, Fine-Grained Access Control of Cookies
Intel Science and Engineering Fair (ISEF)
Louisville, KY.
- 2002 *1st place in Computer Science from US. Army*
Ceebler: An HTTP Proxy for Secure, Fine-Grained Access Control of Cookies
Intel Science and Engineering Fair (ISEF)
Louisville, KY.
- 2002 *2nd place Overall*
Ceebler: An HTTP Proxy for Secure, Fine-Grained Access Control of Cookies
Westchester Science and Engineering Fair (WESEF)
Westchester, NY.
- 2002 *1st place in Computer Science*
Ceebler: An HTTP Proxy for Secure, Fine-Grained Access Control of Cookies
Westchester Science and Engineering Fair (WESEF)
Westchester, NY.

JOURNAL PUBLICATIONS

- 2009 *A³: HCI Coding Guideline for Research Using Video Annotation to Assess Behavior of Non-Verbal Subjects with Computer Based Intervention*
Hailpern, J., Karahalios, K., Halle, J., DeThorne, L. S. and Coletto, M.
ACM's Transactions on Accessible Computing - Volume 2 , Issue 2 (June 2009)

FORMALLY REVIEWED CONFERENCE PAPERS

- 2010 *The CLOTHO Project: Predicting Application Utility*
Hailpern, J., Jitkoff, N., Subida, J. and Karahalios, K.
Proceedings of the ACM Designing Interactive Systems (DIS) Conference.
Arhurs, Denmark
Acceptance Rate 15%
- 2009 *Talking Points: The differential impact of real-time computer generated audio/visual feedback on speech-like and non-speech-like vocalization of low functioning children with Autistic Spectrum Disorder*
Hailpern, J., Karahalios, K., DeThorne, L. S. and Halle, J.
Proceedings of the ACM SIGACCESS- ASSETS 2009 Conference.
Pittsburgh, Pennsylvania
Acceptance Rate 31%
- DTorial: An interactive tutorial framework for blind users in a Web 2.0 world*
Hailpern, J., Guarino Reid, L., Boardman, R.
Proceedings of INTERACT 2009, the 12th IFIP Conference on Human-Computer Interaction
Uppsala, Sweden
Acceptance Rate 29%
- WEB 2.0: Blind to an Accessible New World*
Hailpern, J., Guarino Reid, L., Boardman, R., and Annam, S.
Proceedings of the ACM's International World Wide Web (WWW) 2009 Conference.
Madrid, Spain
Acceptance Rate 12.7%

Creating a Spoken Impact: encouraging vocalization through audio visual feedback in children with ASD

Hailpern, J., Karahalios, K., and Halle, J.

Proceedings of the ACM's SIG CHI Conference 2009 Conference.

Boston, Massachusetts

Acceptance Rate 24.5%

2008 *A³: A Coding Guideline for HCI+Autism Research using Video Annotation*

Hailpern, J., Karahalios, K., Halle, J., DeThorne, L. S. and Coletto, M.

Proceedings of the ACM SIGACCESS- ASSETS 2008 Conference.

Halifax, Canada

Acceptance Rate 36%

2007 *TEAM STORM: Demonstrating an Interaction Model for Working with Multiple Ideas During Creative Group Work*

Joshua Hailpern, Erik Hinterbichler, Caryn Leppert, Damon J. Cook and Brian P. Bailey

Proceedings of the ACM Conference on Creativity & Cognition, June 2007

Washington, D.C.

Acceptance Rate 23%

PATENTS

2008 *A System and Method of Enhanced Virtual Reality*

Joshua Hailpern and Peter Malkin

United States Patent 20080030429. Published February 2, 2008. Filed August 8, 2006,

INVITED TALKS

2010 *Just what do you think you're doing, Dave?:*

Predicting important applications for context sensitive systems

IBM Resarch - Almaden

San Jose, CA

Importance: Quantitatively Predicting a Qualitative Feeling

PARC (Palo Alto Research Center)

Palo Alto, CA

2008 *VCode & VData: Illustrating a new Framework for Supporting the Video Annotation Workflow*

Google Tech Talks

Mountain View, CA

OTHER PUBLICATIONS

2010 *VocSyl: Visualizing Syllable Production for Children with ASD and Speech Delays*

Hailpern, J., Karahalios, K., DeThorne, L., Halle, J.

Extended Abstracts of ACM's SIG ACCESS Conference

Orlando, FL

Walking in Another's Shoes: Aphasia Emulation Software

Hailpern, J., Danilevsky, M., Karahalios, K.

Extended Abstracts of ACM's SIG ACCESS Conference

Orlando, FL

Visualizing Multi-Syllabic Speech with Computers for Language Therapy

Hailpern, J., Karahalios, K., DeThorne, L., Halle, J., Lohrens, J.

International Meeting for Autism Research (IMFAR)

Philadelphia, PA

On Improving Application Utility Prediction

Hailpern, J., Jitkoff, N., Subida, J., Karahalios, K.
Extended Abstracts of ACM's SIG CHI Conference
Atlanta, GA

2008 *Computerized Feedback to Facilitate Vocalizations in Nonverbal Children with Autism*

DeThorne, L.S., Karahalios, K., Halle, J., Hailpern, J., & Coletto, M.
2008 American Speech-Language-Hearing Association Annual Convention
Chicago, IL

Visual Feedback to Facilitate Language in a Child with Autism

Coletto, M., DeThorne, L.S., Halle, J., Karahalios, K., and Hailpern, J.
2008 American Speech-Language-Hearing Association Annual Convention
Chicago, IL

VCode and VData: Illustrating a new Framework for Supporting the Video Annotation Workflow

Joey Hagedorn, Joshua Hailpern, and Karrie G. Karahalios
Poster Paper in at ACM Conference on Advanced Visual Interfaces
Napoli, Italy
Acceptance Rate 26%

Visualizations: Speech, Language and Autistic Spectrum Disorder

Joshua Hailpern, Karrie Karahalios, Jim Halle, Laura DeThorne and Mary-Kelsey Coletto
Extended Abstracts of ACM's SIG CHI Conference
Florence, Italy
Acceptance Rate 38%

Encouraging Speech and Vocalization in Children with Autistic Spectrum Disorder

Joshua Hailpern, Karrie Karahalios, Laura DeThorne and James Halle
Workshop on Technology in Mental Health at ACM's SIG CHI Conference
Florence, Italy

2007 *Encouraging Speech and Vocalization in Children with Autistic Spectrum Disorder*

Joshua Hailpern
ACM SIG ACCESS's Doctoral Consortium/ACM SIG ACCESS's Winter Newsletter
Tempe, AZ.

2006 *WISE: a Wizard Interface Supporting Enhanced Usability*

Joshua Hailpern
Proceedings of ACM's SIG ASSETS Conference
Portland, OR.

TECHNICAL REPORTS

2006 *WISE: a Wizard Interface Supporting Enhanced Usability*

Joshua Hailpern
IBM Research Report RC24015, July 2006

2001 *An Analysis of the Prevalence of Cookies on the World Wide Web*

Joshua Hailpern and Charles C. Palmer
IBM Research Report RC2264, 2001

RELATED EXPERIENCE

Summer 2010 *Summer Internship at Google*

Nicholas Jitkoff, Google; Mountain View, CA.
Creation and Implementation of new Desktop Search Interfaces

- Summer 2008 *Summer Internship at Google*
 Dr. Loretta Guarino Reid & Dr. Richard Boardman, Google; Mountain View, CA.
 Creation of the Dtorial, interactive tutorial system for web application usage for visually impaired users. Usability design, implementation and testing.
 2 Publication
- Summer - Fall 2007 *Independent Study on "Speech and Vocalization in Children with Autistic Spectrum Disorder" Project*
 Prof. Karrie G. Karahalios, University of Illinois at Urbana-Champaign; Champaign, IL.
 Designed and built visual and auditory feedback tools to encourage speech and vocalization in low functioning non-verbal children with Autistic Spectrum Disorder. Designed, organized and conducted studies to test the preferences and effect of the tool on target population.
 10 Publications + MS Thesis
- Fall 2006 *Independent Study on "TEAM STORM" Project*
 Prof. Brian Bailey, University of Illinois at Urbana-Champaign; Champaign, IL.
 Conducted observational studies, designed and built a prototype, and performed user tests on TEAM STORM (TEAM Support Tool Oriented to Realization of Multiple-ideas), a system to support creative idea generation for early stage design teams.
 1 Publication
- Summer 2006 *Summer Internship at IBM Research*
 Dr. Vicki Hanson, IBM Thomas J. Watson Research Center; Hawthorn, NY.
 Usability design, implementation and testing for older adults browsing the web using IBM's Accessibility works. Conducted user testing of WISE system with older adults.
 2 Publications
- 2005-2006 *Senior Thesis on "Distributed Detection of New Virus Threats in Large Scale Networks"*
 Prof. Benoit Morel, Carnegie Mellon University; Pittsburgh PA.
 Investigated the feasibility and practicality of a distributed virus detection network to recognize new computer viruses faster than current methods basing our model on work by John von Neumann.
- Spring 2006 *Teaching Assistant for Computer Networks: 15-441*
 Profs. Peter Steenkiste and David Eckhardt, Carnegie Mellon University; Pittsburgh, PA.
 Teaching Assistant for Computer Networks.
- Fall 2005 *HCI Research Project on "WISE: Wizard Interface Supporting Enhanced usability"*
 Prof. Jason Hong, Carnegie Mellon University; Pittsburgh, PA.
 As part of HCI 431, researched and designed a new graphical interface for older adults, based on gerontological literature, which addresses many age related challenges.
 1 Publication
- Summer 2005 *Summer Internship in Computer Music*
 Prof. Roger Dannenberg, Carnegie Mellon University; Pittsburgh, PA.
 Designed and implemented a programming interface to a music visualization package. Converted program to C and debugged Matlab sound analysis code.
- Summer 2005 *Teaching Assistant for Fundamental Data Structures and Algorithms: 15-211*
 Prof. Victor Adamchik, Carnegie Mellon University; Pittsburgh, PA.
 Teaching Assistant for Fundamental Data Structures and Algorithms
- Summer 2004 *Summer Internship at IBM Software Group's Pittsburgh Lab*
 Jeff Kaminski, IBM Software Group; Pittsburgh, PA.
 Designed and implemented a reservation database in Lotus Notes, a script to get status and perform updates on networked systems as well as performing machine maintenance.
- Spring 2004 *Intern/Independent Study with CMU's Entertainment Technology Center*
 Prof. Tina Blain, Carnegie Mellon University; Pittsburgh, PA.
- Fall 2003 *Consultant for Intermediate/Advanced Programming*
 Prof. Rich Pattis, Carnegie Mellon University; Pittsburgh PA.

- Summer 2003 *Summer Internship at IBM Research*
Dr. Herb Lee, IBM Thomas J. Watson Research Center; Yorktown Heights, NY
Designed/developed authentication/logging programs for IBM Tivoli's Internet measurement software
- 1999 - 2002 *Supervised Computer Research Project*
Dr. Charles Palmer, IBM T. J. Watson Research Center; Hawthorn, NY
Conceived and developed prototype software to protect, encrypt and manage Internet cookies.
1 Publications

PROFESSIONAL ACTIVITY

- 2010 *Public Relations Chair*
ACM SIG ASSETS 2010 Organizing Committee
- 2009 - 2010 *Graduate-undergraduate Mentor*
Women in Computer Science, University of Illinois Chapter
Urbana, IL
- 2009 *Local Arrangements Chair*
ACM SIG ASSETS 2009 Organizing Committee
- Fall 2008 *Participated in the Invitation Only ACM Digital Library Workshop*
Sole student representative at two-day workshop focused on design and outlining future direction of the ACM Digital Library
ACM Headquarters
New York, NY
- 2008 - Present *ACM SIGCHI - Association for Computing Machinery*
Special Interest Group on Computer-Human Interaction
Member, Student
- 2008 - Present *ACM SIGACCESS - Association for Computing Machinery*
Special Interest Group on Accessible Computing
Member, Student
- Spring 2007 *Student Volunteer*
ACM SIG CHI Conference 2007
San Jose, CA
- 2006 - Present *ACM - Association for Computing Machinery*
Member, Student

MENTORED STUDENTS

- 2010 - Present *Mo Kudeki*
The VocSyl Project
- 2009 - 2010 *Joseph Subida*
The Clotho Project
- 2007 - 2008 *Joey Hagedorn*
VCode & VData

PUBLICATION REVIEWER

- 2008 - 2010 *Transactions on Accessible Computing*
Journal

- 2010 *ASSETS*
Conference
- 2010 *Intelligent User Interfaces*
Conference
- 2007 - 2010 *CHI*
Conference
- 2009 - 2010 *CSCW*
Conference
- 2009 *Creativity and Cognition*
Conference
- 2009 *ACM Multimedia*
Conference

PRESS

- 2009 *Talking in color: imaging helps social skills*
David Lawsky
Reuters News Service and Syndicated Outlets

COMPUTER SKILLS

Applications

MS Office, Lotus SmartSuite, Adobe Creative Suite, Macromedia Dreamweaver, Macromedia Director, Processing, Sonic Foundry Family, ProTools, Reason, Finale, Epsilon/Emacs, Eclipse, Project Builder, Xcode, iLife, iWork, Final Cut Studio, Web-Sphere Development Studio

Languages

Java, JavaScript, SML, C, C++, Perl, HTML, Assembly, Matlab, Cocoa, Applescript, Carbon, OpenGL

Operating Systems

Windows (95, 98, ME, 2000, XP), OSX, OS9, Linux, Unix, Solaris

SELECTED COURSE TOPICS

Graduate: University of Illinois at Urbana Champaign

Computer Supported Cooperative Work, IT Design, Computer Graphics, Human-Computer Interaction, Graphic Design

Undergraduate: Carnegie Mellon University

Computer Science & Technology - Programming Languages, Data Structures, Algorithms, Systems, Networks, Virtual Reality, User Interface Architecture, Computer Theory, Information Warfare, Robotics, Electronic & Computer Music - *Graphic Design* - Visual Interface Design, Communication Design - *Music* - Music Theory, Recording Techniques, Physics of Music

OTHER SKILLS

Graphic Design

Print, Web, Logo, Poster and Brochure

Music

Guitar, Piano, Composition, Recording, Editing and Mastering

Video
Editing and Effects

OTHER EXPERIENCE

- 2007 - 2009 *Member Governing Board*
The Hillel Foundation, Center for Jewish Life; Champaign, IL.
- 2003 - Present *Web, Logo and PR Design*
The Hillel Foundation, Center for Jewish Life; Champaign, IL.
The Hillel Foundation, Jewish University Center of Pittsburgh; Pittsburgh, PA.