

Michael Gubbels

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Education

- 2011 – Present University of Maryland, College Park
Ph.D., Computer Science
Emphasis in Human-Computer Interaction
Cumulative GPA: 4.0 of 4.0
- 2006 – 2011 University of Nebraska – Lincoln
B.S., Computer Science (GPA: 3.8 of 4.0)
Minor in Mathematics (GPA: 3.7 of 4.0)
Cumulative GPA: 3.6 of 4.0

Interests

Human-centered design, human-computer interaction, interaction and interface design, social computing and online communities, social media and social networks, artificial intelligence, machine learning

Relevant Classes

(Graduate) Social Computing, Social Computing Technologies and Applications, The Future of Human-Computer Interaction, Computational Linguistics I, Computational Geometry, (Undergraduate) Machine Learning, Artificial Intelligence, Pattern Recognition, Multiagent Systems, Robotics Algorithms and Applications, Motion: Audio and Video, Cultural Anthropology, Physical Anthropology, Women in Contemporary Society, (Professional) Introduction to Adobe Photoshop

Research Experience

- Fall 2012 – Present Graduate Research Assistant, University of Maryland, College Park
Supervisor: Bo Xie, Ph.D., College of Information Studies
- Designing and building web application prototype for pilot study of how mobile technology and social media can educate and facilitate access to trusted health information for older adults.
 - Funded by National Science Foundation (January 2011 – Present).
- Spring 2012 – Present Graduate Research Assistant, University of Maryland, College Park
Supervisor: June Ahn, Ph.D., College of Information Studies and College of Education
- Designed and built web application to study how interactions in social media can provide instructional scaffolding for learning scientific inquiry skills in informal environments outside of schools.
 - Submitted a work-in-progress paper and poster to ACM SIGCHI Conference on Human Factors in Computing Systems 2012.
 - Will present a poster for this research at ACM SIGCHI Conference on Human Factors in Computing Systems 2012.
- 2009 – 2011 Undergraduate Research Assistant, University of Nebraska – Lincoln
Supervisor: Stephen D. Scott, Sc.D., Department of Computer Science and Engineering
- Extended budgeted machine learning algorithms for learning Bayesian network classifiers
 - Developed original algorithms for exploiting structural properties of Bayesian networks to improve learning efficiency
 - Compared empirical classification error of models learned by extended and original algorithms and existing algorithms
 - Funded by Ronald E. McNair Post Baccalaureate Achievement Program (Summer 2009), Undergraduate Creative Activities and Research Experiences Program (August 2009 – May 2010), and National Science Foundation (August 2009 – Present)
- 2008 – 2009 Undergraduate Research Assistant, University of Nebraska – Lincoln
Supervisors: David Brooks, Ph.D., Teaching, Learning, and Teaching Education,

Leen-Kiat Soh, Ph.D, Computer Science and Engineering

- Implemented interactive graphical interface and games for touch-screen kiosks at Lincoln Children's Zoo for use by children from ages 3 to 5
- Collaborated with advisers from Department of Teaching, Learning, and Teacher Education, Department of Computer Science and Engineering, and technical staff at Lincoln Children's to establish project goals and design games for young audience
- Maintained and supported software for period after research
- Funded by Undergraduate Creative Activities and Research Experiences Program

Summer 2007

Undergraduate Research Assistant, University of Nebraska – Lincoln

Supervisor: Cynthia Wei, Ph.D, Center of Avian Cognition, School of Biological Sciences

- Developed interactive graphical tests for a research team investigating the cognitive abilities of the corvid family of birds
- Developed graphical testing environments and control software for custom bird feeder hardware used to reward birds after responding to test prompts
- Implemented tests that detect bird pecks on a touch/peck-sensitive display and conditionally dispense birdseed from a custom software-controlled mechanical bird feeder
- Developed software for MS-DOS operating system in ANSI C programming language with legacy graphics, touch/peck detection, and bird feeder hardware libraries

Teaching Experience

Fall 2011

Graduate Teaching Assistant, University of Maryland, College Park

Supervisor: Ben Bederson, Ph.D, Department of Computer Science and Engineering

- Assisted in Human-Computer Interaction class for one semesters
- Created reading questions for assigned readings
- Graded student homework, exams
- Held regular office hours and met with students upon request

Spring and Fall 2009

Undergraduate Teaching Assistant, University of Nebraska – Lincoln

Supervisor: Usha Chandra, Ph.D, Department of Computer Science and Engineering

- Assisted in Introduction to Computer Science II Laboratory for two semesters
- Collaborated with teaching staff to update lab curriculum
- Provided in-lab instruction and support
- Graded weekly lab assignments
- Held regular office hours and met with students upon request

Publications

Publications

Ahn, J., Gubbels, M., Kim, J., Wu, J. (2011). SINQ: Scientific INQuiry Learning using Social Media and the Crowd. Accepted to ACM SIGCHI Conference on Human Factors in Computing Systems 2012. Austin, TX. (48% Acceptance rate)

Conference Proceedings

Gubbels, M. (2009). Budgeted Machine Learning of Bayesian Networks. In Proceedings of the 17th Annual Ronald E. McNair Scholars Symposium. UC-Berkeley, Berkeley, CA.

Presentations

Conferences

Gubbels, M. (2009, August). Budgeted Machine Learning of Bayesian Networks. Presented at the 17th Annual Ronald E. McNair Scholars Symposium, UC-Berkeley, Berkeley, CA.

Poster Presentations

Ahn, J., Gubbels, M., Kim, J., Wu, J. (2011). SINQ: Scientific INQuiry Learning using Social Media and the Crowd. Presented at ACM SIGCHI Conference on Human Factors in Computing Systems 2012. Austin, TX. (48% acceptance rate)

Gubbels, M. (2009, July). Budgeted Machine Learning of Bayesian Networks. Poster presentation at the Ronald E. McNair Scholars Summer Research Colloquium, University of Nebraska-Lincoln, Lincoln, NE.

Gubbels, M. (2009, April). Developing a Software Framework for Adaptive Interactive Kiosks: On the Design and Implementation of Educational Games for a Young Audience in an Unpredictable Environment. Poster presentation at the Undergraduate Research Conference, University of Nebraska-Lincoln, Lincoln, NE.

Exhibitions

Gubbels, M. (2011). Digital Photographs. mailto:, Drift Station Gallery. Lincoln, NE.

Gubbels, M. (2011). Interpretations B Motion 1. Digital Video. BA/BFA Interrogating the Future Interdisciplinary Art Practice, Arcade Gallery. Columbia College Chicago, Chicago, IL.

Gubbels, M. (2011). Interpretations B Motion 1. Digital Video. Indoor/Outdoor Film Screening, Drift Station Gallery. Lincoln, NE.

Honors and Awards

2011	Awarded Fellowship from Department Computer Science at University of Maryland, College Park
2011	Awarded Dean's Fellowship from University of Maryland, College Park
2009 - 2010	Awarded W&L Brown Scholarship for Outstanding Achievement in Computer Science
2009 - 2010	Awarded Undergraduate Research and Creative Activities research grant
2008 - 2009	Inducted into the Upsilon Pi Epsilon at University of Nebraska - Lincoln
2008	Inducted into the Ronald E. McNair Post Baccalaureate Achievement Program
2007 - 2008	Awarded Larry Reynolds Computer Science & Achievement Scholarship
2007 - 2008	Awarded Computer Science and Engineering Lantz Hess Engineering Scholarship
2007	Awarded Undergraduate Research and Creative Activities research grant
2006 - 2007	Awarded NSF CSEMS scholarship
2006 - 2007	Awarded AITP Omaha Technology Scholarship

Professional Experience

Summer 2010	Computer Engineer Communications Systems Solutions, Lincoln, NE
	<ul style="list-style-type: none"> - Worked as one of two primary engineers developing firmware for a custom embedded Power of Ethernet (PoE) device and desktop application to communicate with and command the devices - Primary engineer on a small team developing firmware for a custom Power over Ethernet (PoE) device with an embedded TI Stellaris® ARM® Cortex™-M3 6000 Series 32-bit microprocessor using the C programming language and TI StellarisWare software libraries - Implemented SNTPv3 protocol according to standard standard for embedded devices - Developed custom application-level communication protocol to enable remote command and communication for custom embedded device - Primary engineer developing desktop application for discovery and configuration of multiple PoE devices on network using C++ programming language and Qt4 for the Windows and Mac operating systems
Summer 2008	Computer Engineer (Intern) Communications Systems Solutions, Lincoln, NE
	<ul style="list-style-type: none"> - Developed software architecture and graphical interface for converting CAD files in Gerber RS-274X format to AutoCAD DXF format for circuit board prototyping applications - Developed software using C++/STL and Qt4 graphics API for Windows and Linux
2007 - 2008	Software Developer (Intern) Marex Group, Lincoln, NE
	<ul style="list-style-type: none"> - Developed unit testing framework for proprietary software using Visual Basic .NET - Developed a SOAP web interface for interfacing with a private object model - Wrote technical documentation for web service and unit testing framework

Service and Leadership

2012	Volunteer for Broadband Bridge Discovering Technology Fair
2012	Volunteer for D.C. FIRST Robotics Challenge for High School Students
2011	Volunteer for Future of Information Alliance at University of Maryland, College Park
2011	Volunteer Reviewer for CHI 2012 paper clinic in Human-Computer Interaction Lab at University of Maryland, College Park
2011	Volunteer for heuristic evaluation of Office of Information Technology website in Human-Computer Interaction Lab at University of Maryland, College Park
2011	Awarded Dean's Fellowship at University of Maryland, College Park
2009 - 2012	Student Ambassador for Undergraduate Creative and Research Experiences Program
2008 - 2010	Vice President of Upsilon Pi Epsilon

2008 Co-founded Upsilon Pi Epsilon chapter at University of Nebraska – Lincoln
 2007 – 2008 Volunteer on Computer Science and Engineering Student Advisory Panel on Computer Science and Engineering Day at University of Nebraska – Lincoln
 2007 Volunteer for high-school programming competition on Computer Science and Engineering Day at University of Nebraska – Lincoln

Professional Activities

2012 Member of Interaction Design Association Washington D.C. (IxDC)
 2012 Member of the HacDC Hackerspace in Washington D.C.
 2011 Graduate Student in the Human-Computer Interaction Lab at the University of Maryland, College Park
 2010 – 2011 American Radio Relay League (ARRL) Member (call sign KDØMMR)
 2009 – 2012 Association for Computing Machinery (ACM) Student Member

Skills

Programming Languages: C, C++, Java, Python, Lisp, UNIX C shell and Bourne shell scripting

Web Development: JavaScript, XHTML, CSS, Google App Engine, Django, PHP, MySQL, SQLite

Embedded Programming Languages: AVR ASM, AVR C, Intel x86 ASM, MIPS, nesC

Graphics: OpenGL and GLUT

Machine Learning: Netica C and Netica-J APIs

Applications: TeX, LaTeX, BibTeX, Eclipse, Microsoft Visual Studio, OpenOffice.org, and Microsoft Office

Design: Apple Final Cut Pro, Adobe Photoshop, Arduino, Processing, wireframing, low and high fidelity prototyping methods, familiarity with Section 508 accessibility guidelines, information architecture, system architecture

Operating Systems: Apple Mac OS X, Linux, Microsoft Windows

Embedded Platforms: Arduino, TinyOS, and Texas Instruments Stellaris

Interests and Activities

Computer programming, hackerspaces, culture, hobby robotics and electronics, coffee roasting and brewing, bicycling, motorcycling, playing synthesizer and piano, experimental art, amateur radio (call sign KDØMMR)

References

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June Ahn, Ph.D.
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