



# **MINKWIC**

# **2011**

## **Missouri Iowa Nebraska Kansas**

## **Women in Computing**

## **Conference Proceedings**

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**October 7 – 8, 2011**  
**Kansas City, MO.**

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## Table of Contents

<i>Acknowledgments</i> .....	3
<i>Presenters</i> .....	5
<i>Keynote Speakers</i> ... ..	7
<i>Graduate Papers</i> .....	9
<i>Poster Abstracts</i> .....	13
<i>Lightning Talk Abstracts</i> .....	15
<i>Panels</i> .....	19
<i>Workshop/Special Session</i> .....	20

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- Our excellent workshop and special session presenters! Crushing Gender Stereotypes: BJ Wishinsky (ABI). Interviewing Skills: Erin Stancik and Jeanne Johnson (Microsoft). Recruiting Women Into Your Computing Major: Joanne McGrath Cohoon (NCWIT).
- Our excellent panelists! Grad School Panel: Boots Cassel (Villanova), Patty Lopez (Intel), Joanne Cohoon(NCWIT), Kim Wall (Principal Financial Group) and Bridig Halling (KU PhD student). Imposter Syndrome Panel: Alyssa Daw (Google), Jeanne Johnson (Microsoft), Michelle Brush (Garmin), Yuvonise Thurmond (KC Light & Power) and Julia Stefani (Monsanto). Glass Ceiling Panel: Cindy Lundstrom (Booz Allen Hamilton), Lauren Larscheid (Cisco), Richelle Alvers (HP), Sonia Sharma (Google) and Michelle Sommers (Cerner).
- Last but not least, all the wonderful student participants (125+) and presenters (30 of you!) who shared thirty different posters, papers and lightning talks with everyone. **YOU ARE THE FUTURE!!!**

## Presenters

- Bade, Sriekha - Northwest Missouri State University  
Talk: *Emerging Technologies*
- Becker, Danyel - Missouri Western State University  
Poster: *Assistive Technologies? Above the Glass Ceiling*
- Black, Jasmine - Northwest Missouri State University  
Poster: *Computing and Banking Industry*
- Boggavarapu, Sravya - Kansas State University  
Talk: *Ways to bring more women into Computing*
- Chakdar, Kriti - University of Kansas  
Talk: *Training Boltzmann Machine for Cancer Diagnosis*  
Poster: *Augmented Reality*
- Charlakola, Spoorthi - Northwest Missouri State University  
Poster: *How Have Women Emerged in Computing?*
- Cheeti, Srilaxmi - Kansas State University  
Poster: *Cross-Domain Sentiment Classification Using Motifs Derived from Syntax Tree and an Adaptive Naïve Bayes Classifier*
- Chittajallu, Sudha Rasmi - Northwest Missouri State University  
Poster: *How Has Technology Changed Women's Lives?*
- Dell, Isabella - Northwest Missouri State University  
Talk: *The Echo Smartpen, Writing Modernized*
- Doddapaneni, Krishna Kumari - University of Missouri-Kansas City  
Poster: *Cryonics : Raising the Dead*
- Edupuganti, Sindhuja - Northwest Missouri State University  
Talk: *Women in Computing in India*
- Ferguson, Christine - Northwest Missouri State University  
Poster: *Accounting and Computer Science: Strong partners when choosing a college major and/or minor*
- Gangavelli, Shravya Rao - Northwest Missouri State University  
Talk: *Considerations For the Project's Success*
- Glenn, Brandi - Missouri Western State University  
Poster: *Different Aspects That Are Put Into Creating a Website*
- Gorla, Pratima; Kanakamedala, Archana; Jayam, Harini; Pochanapeddi, Deepthi  
University of Missouri – Kansas City  
Paper: *Smart Home*
- Hendricks, Melanie - Southeast Missouri State University  
Poster: *Using Concept Maps to Improve Teams' Abilities to Navigate Ill-Structured Problems*
- Hughes, Dee - Missouri Western State University  
Talk: *Non-Profit Project with Potential for National Recognition*
- Jones, Elise - Northwest Missouri State University  
Talk: *Navigating the Social World*
- Kanakamedala, Archana - University of Missouri-Kansas City  
Talk: *Art Valley*
- Kellner, Andrea - Missouri Western State University  
Talk: *The Importance of Networking*
- Meesala, Nirupama - Kansas State University  
Talk: *Why People Think a Computer Career is Easy*

Mejova, Yelena - University of Iowa  
Paper and Poster: *Refined Sentence Polarity Classification using Affect Control Theory*

Parne, Spoorthy Reddy - Kansas State University  
Talk: *Does Gender Matter in Computer Science?*

Pooreddy, Sreenidhi - Northwest Missouri State University  
Poster: *Augmented Reality in Daily Life*

Raghavan, Rama - University of Missouri-Kansas City  
Talk: *Understanding Intelligence*

Shin, Sunae - University of Missouri-Kansas City  
Poster: *An Efficient Location Update Scheme for Multicast Applications in Cellular Networks*

Spurgeon, Maria - Missouri Western State University  
Poster: *Achieve with AITP*

[Sridhar, Vidya - University of Missouri-Kansas City](#)  
Paper: *Content Based Image Retrieval*  
Poster: *Semi-Supervised Learning of Alternatively Spliced Exons Using Expectation Maximization Type Approaches*

Swaminathan, Kapilaarathi - Missouri Western State University  
Talk: *Work Life Balance for Women in Computing*

## **CRA-W Distinguished Keynote Speaker**

**Dr. Patty Lopez**

***Logic Validation Engineer, Intel Corporation***

**Testing to Ensure that Moore's Law Continues**

Abstract

Microprocessors with nearly three billion transistors now exist. These chips often integrate diverse components (e.g. System-on-a-Chip products), some of which may be “black box” in nature. To maintain Moore’s Law, the challenge is to manage the increasing variability of state-of-the-art process technology while maintaining yield/quality and cost. This talk will discuss the increasing importance “Design for Test” (DFT) methodologies as microprocessors scale to higher and higher levels of complexity.

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**Dr. Patty Lopez** is an imaging scientist who spent 19 years at HP transferring technology into products and holds seven imaging patents. Patty joined Intel in 2008 and works on microprocessor logic validation design for test and manufacturability. Patty graduated with high honors from New Mexico State University with a B.S., M.S., and Ph.D. in Computer Science. Her research interests include logic validation, computer and human vision, software engineering, and computer science education.

Patty received several technical leadership, diversity, and community service awards, including the 2010 HENAAC Award for Community Service. She serves on the CAHSI, ABI, and CRA-W Boards. She has served on the GHC organizing committee in several roles and will be the GHC 2012 Program Industry Co-Chair. She is an NCWIT Workforce Alliance Project Team member, and her current passion is creating an inclusive organizational culture in the workplace.



## **CRA-W Distinguished Keynote Speaker**

**Dr. Lillian(Boots) Cassell**

***Professor, Villanova University***

**No Discipline is an Island:  
Where Computing and Other Disciplines Meet**

### Abstract

What do physics and music and biology have in common? What role does computer science play in each of these fields? How does psychology inform computer science and support development of effective user environments? How do social networks draw on mathematics and sociology? Interdisciplinarity characterizes the ways that various distinct disciplines interrelate and evolve into new areas of research and application. This talk will survey some of the areas where computing and other disciplines are joining forces to solve new problems – and to pose others

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**Lillian (Boots) Cassel** is professor of computing sciences at Villanova University. She is lead principal evaluator on the NSDL Ensemble Project ([www.ensemble.org](http://www.ensemble.org)) and on the CPATH Distributed Expertise project; she co-leads the NSF project on Interdisciplinary Computing. She has served as chair of ACM SIGCSE and of the ABET Computing Accreditation Commission, and is currently a member of the ACM Education Board. Her particular interests include computing education, digital libraries, and interdisciplinary computing.



## Graduate Papers

### **Refined Sentence Polarity Classification using Affect Control Theory**

**Presenter:** Yelena Mejova, University of Iowa [yelena-mejova@uiowa.edu](mailto:yelena-mejova@uiowa.edu)

In this research we ground the semantic modeling of emotion used in Sentiment Analysis in the sociological field of Affect Control Theory. For over four decades, Affect Control Theorists refined the quantification of various aspects of affective meaning, placing each concept that may be expressed by a word in a multi-dimensional semantic space. Furthermore, the theory provides empirically-derived equations for modifying the affective meanings of words according to the context in which they appear. Using these models, as well as numerous annotated lexicons produced by various sociological studies, we extend the simplistic definition of sentiment used in automatic text analysis today. We show that Affect Control Theory is useful in the Sentiment Analysis task of polarity classification, achieving a significant improvement over a classifier driven by a standard SA lexicon.

### **Content Based Image Retrieval**

**Presenter:** Vidya Sridhar, University of Missouri – Kansas City [vsx93@mail.umkc.edu](mailto:vsx93@mail.umkc.edu)

Growth and development of multimedia technology has led to an exponential increase in visual information. Where traditional key-based information retrieval techniques do not completely meet the users' demands, Content-Based-Image-Retrieval(CBIR)prevails. CBIR refers to the retrieval of images from a database using information derived from the images themselves rather than their text indices. In this paper we describe an improved approach of content based retrieval, based on dominant colors in the foreground and background of the image. We combined the dominant colors along with histogram and statistical features to form a substantial set that determines the overall similarity measure between the query and queried image. Effective feature extraction is crucial for the relevant results. By combining the usefulness of these features, we seek to gain better semantic relevance among retrieved images. On a test set of 1000 images, grouped into different classes (based on visual content), the proposed method has improved the accuracy of image retrieval, compared to those of prevalent methods based solely on the dominant color feature.

### **Smart Home**

**Presenters:** Pratima Gorla, Archana Kanakamedala, Harini Jayam, Deepthi Pochanapeddi, University of Missouri – Kansas City [pgktb@mail.umkc.edu](mailto:pgktb@mail.umkc.edu)

In the presence of advanced technology, the quality of human life is advanced. The aid from those technologies not only makes our lives more comfortable and hassle free, but also helps those with disabilities for their independent and safe lives. Developing a smart home system provides various benefits to senior people for maintaining security as well as for managing daily routines like garage management, pet feeding etc. For an effective realization of the imagination in the world, we have explored new forms of computational platforms, i.e. Cloud Computing and Virtual Worlds such as Second Life - “a 3D virtual world where users can socialize, connect and create using free voice and text chat.” Building all these features in a Virtual World seems easier than we think, as no actual resources are needed in building the house. This approach helps people to visualize how advanced features can be implemented for smart homes and how useful it can be in a real world. In this way it saves a tremendous amount of time, effort, and money. The main objective of the paper is introducing the Smart Home design that ensures security using biometric fingerprint detection techniques, reduces energy at home by monitoring power usage and temperature using sensors, models a dynamically changing home environment (e.g., music and color modulation), creates an automatic system for carrying out daily routines like cleaning house, caring pets and plants, sends a medication reminder to elderly people, and monitors children and pets in the house from distance. The Smart Home project (proposed as a group project for CS590VC: Virtual Worlds in Computing class at UMKC) is in the development process using

Web Services, Second Life, and IBM Cloud Technologies. We believe that our Smart Home project will improve lives and make them more efficient.

## Graduate Posters

### **Augmented Reality in Daily Life**

**Presenter:** Sreenidhi Pooreddy, Northwest Missouri State University  
[s507057@mail.nwmissouri.edu](mailto:s507057@mail.nwmissouri.edu)

Augmented Reality technology allows us to present virtual digital information such as 3D graphics, rich text and multimedia information in our real life. This platform helps us to get the required information on the fly by identifying the required input patterns captured by the camera. Augmented Reality opens the door to the 3D virtual life where it's very easy and efficient to access the required information on the go. Augmented Reality setup contains a camera and a computer device. Usually a web cam or a cellphone camera is used to capture and identify the patterns. Then the 3D objects are rendered at the appropriate place to provide information. This paper discusses the present trend of Augmented Reality and its use to simplify our day to day activities. It explains the variety of fields that the technology is applied to and how the virtual information is helpful to us. This paper also brings forth some of the augmented reality applications such as, Layers web browser helps to use the web smoothly, Entertainment magazines and text books are more efficient to read, General Motors is taking car security to next level by using AR-Windshields, Microsoft Kinect is not only bringing the game to us physically but also the revolutions in healthcare. This paper also introduces some of the software APIs in Android, Silverlight, and iPhone which are used to develop these gaming applications.

### **How Has Technology Changed Women's Lives?**

**Presenter:** Sudha Rasmi Chittajallu, Northwest Missouri State University  
[s509462@mail.nwmissouri.edu](mailto:s509462@mail.nwmissouri.edu)

This presentation mainly focuses with the longstanding entry and participation of women in the area of technology. There is a drastic change from past few decades with the technological involvement in women's life. This paper deals with (1) what made women develop their interest towards the technology, (2) did their involvement really change their lives and (3) how far it helped them in both their personal lives and in their work area. This presentation also involves the comparison between the women's involvement in the technical field over the 19th and 20th century. Much research has been conducted regarding the success of women in technical fields. Overall, this presentation is regarding the technology and its effect on women's lives.

### **How Have Women Emerged in Computing?**

**Presenter:** Spoorthi Charlakola, Northwest Missouri State University  
[spoorthi.charlakola@gmail.com](mailto:spoorthi.charlakola@gmail.com)

There is a tremendous change in women's lives with the help of technology. There was a drastic change from 19th century to the present. We can see women in every field today. Women's contributions towards society regarding technology are vital. Challenges and experiences dealt with by women are mentioned in this presentation. Few motivational theories of how women managed to face the present technological and work area trends. Statistical comparison of how women managed to compete with the world. Examples of such women are provided in this presentation.

### **Semi-Supervised Learning of Alternatively Spliced Exons Using Expectation Maximization Type Approaches**

**Presenter:** Ana Stanescu, Kansas State University [anas@ksu.edu](mailto:anas@ksu.edu)  
**Advisor:** Dr. Doina Caragea

Successful advances in DNA sequencing technologies have made it possible to obtain tremendous amounts of data fast and inexpensively. As a consequence, the afferent genome annotation has become

the bottleneck in our understanding of genes and their functions. Traditionally, data from biological domains have been analyzed using supervised learning techniques. However, given the large amounts of unlabeled genomics data available, together with small amounts of labeled data, the use of semi-supervised learning algorithms is desirable. Our purpose is to study the applicability of semi-supervised learning frameworks to DNA prediction problems, with focus on alternative splicing, a natural biological process that contributes to protein diversity. More specifically, we address the problem of predicting alternatively spliced exons. To utilize the unlabeled data, we train classifiers via the Expectation Maximization method and variants of this method. The experiments conducted show an increase in the quality of the prediction models when unlabeled data is used in the training phase, as compared to supervised prediction models which do not make use of the unlabeled data.

### **Cryonics : Raising the Dead**

**Presenter:** Krishna Kumari Doddapaneni, University of Missouri-Kansas City  
[kdb93@mail.umkc.edu](mailto:kdb93@mail.umkc.edu)

Cryonics is a one of the many new found applications of Nanotechnology. It is a technological attempt at raising the dead. It can actually be elaborated as a procedure where humans or animals who can no longer sustain life by contemporary medicine, are preserved at extremely low-temperatures in hope of possible resuscitation in the future. Very low temperatures create conditions that can preserve tissue for centuries, possibly including the neurological basis of the human mind. Through a process called vitrification, brain tissue can be cooled to cryogenic temperatures without ice formation. Damage associated with this process is theoretically reversible in the same sense that rejuvenation is theoretically possible by specific foreseeable technology. Injury to the brain due to stopped blood flow is now known to result from a complex series of processes that take much longer to run to completion than the six minute limit primarily damages blood vessels rather than brain tissue. Apoptosis of neurons takes many hours. This creates a window of opportunity between legal death and irretrievable loss of life for human and animal subjects to be cryopreserved with possibility of future resuscitation. Under ideal conditions, the time interval between onset of clinical death and beginning of cryonics procedures can be reduced to less than a minute, but much longer delays could also be compatible with ultimate survival. Although the evidence that cryonics may work is indirect, indirect evidence is essential in many areas of science. If complex changes due to aging are reversible at some future date, then similarly complex changes due to stopped blood flow and cryopreservation may also be reversible, with life-saving results for anyone with medical needs that exceed current capabilities

### **An Efficient Location Update Scheme for Multicast Applications in Cellular Networks**

**Presenter:** Sunae Shin ([sshin@mail.umkc.edu](mailto:sshin@mail.umkc.edu)), University of Missouri-Kansas City

**Collaborators:** Xinjie Guan and Dr. Baek-Young Choi, UMKC

Cellular networks support mobile users (MU) by delivering voice and data services within the coverage area. This is achieved by the location management (LM) which aims to keep track of where the mobile users (MU) are, so that information from other mobile users can be delivered to them. LM consists of two main tasks: location update and paging. Location update is an operation through which MU reports its current location when a user travels to a non-registered area. Paging is initiated by the network to search the exact location of MU within the registered location area to deliver the information. With remarkably increasing mobile services, we found two issues for the necessity of efficient location management. One is heavy control traffic due to the overloaded lookup operations. Currently, every request for location update and paging is serviced through the Home Location Register (HLR) which stores information of all subscribers. The other issue is a great potential to be used in groups on the mobile services, in other words, a new service trend toward multicast applications. Multicast is one of the efficient mechanisms for data exchange between a sender and a group of subscribers. Multicast can be used for video conference and online games. Thus, we suggest a location update scheme that efficiently supports multicast applications via alleviating traffic overhead. First, we handle location management of group members of multicast applications with a group location register (GLR). Overhead on the link to HLR

also can be reduced by updating and discovering through GLR. Second, we propose dynamically adjusting the Location Area (LA) according to the historical profile of MUs. To determine optimal size of LA, we improve Density Based Spatial Clustering of Applications with Noise (DBSCAN). We validate our suggested strategy by real movement traces.

### **Cross-Domain Sentiment Classification Using Motifs Derived from Syntax Tree and an Adaptive Naïve Bayes Classifier**

**Presenter:** Srilaxmi Cheeti, Kansas State University ([srilaxmi.cheeti@gmail.com](mailto:srilaxmi.cheeti@gmail.com))

**Advisor:** Dr. Doina Caragea

There is an increasing amount of user-generated information in online documents, including users' opinions on various topics and products. To make use of such opinions, it is useful to identify the polarity of the opinion, in other words, to perform sentiment classification. Supervised learning approaches have been successfully used for sentiment classification in domains that are rich in labeled data. Some of these approaches rely on tree kernels, where the trees are either sentence syntax trees or variations of these trees obtained using pruning strategies. However, for some domains the amount of labeled data can be relatively small. Therefore, it is interesting to study domain adaptation techniques that can transfer knowledge from one sentiment classification domain to a different domain. We address this problem in the context of product reviews. Our approach makes use of motifs derived from syntax trees and an Adapted Naïve Bayes classifier (ANB). More precisely, we identify tree motifs that occur frequently in both the source and the target domains, and use them together with motifs specific to the target domain, as features for a variant of the Naïve Bayes classifier, to transfer knowledge from source to target. Experiments focused on sentence level sentiment classification using domain adaptation between different types of product/movie reviews are currently being conducted.

### **Augmented Reality**

**Presenter:** Kriti Chakdar, University of Kansas

[kriti.chakdar@gmail.com](mailto:kriti.chakdar@gmail.com)

Augmented reality is the next thing.... It is able to show things in 3D and make many science fiction things possible! The way it works has amazed me and I want to share it with others. I have not yet worked on it, but I plan to. However, I first want others to know about it because it is amazing, and I'm sure it will amaze others also who don't know about it.

### **Refined Sentence Polarity Classification using Affect Control Theory**

**Presenter:** Yelena Mejova ([yelena-mejova@uiowa.edu](mailto:yelena-mejova@uiowa.edu)), University of Iowa

**Advisor:** Dr Padmini Srinivasan ([padmini-srinivasan@uiowa.edu](mailto:padmini-srinivasan@uiowa.edu))

In this research we ground the semantic modeling of emotion used in Sentiment Analysis in the sociological field of Affect Control Theory. For over four decades, Affect Control Theorists refined the quantification of various aspects of affective meaning, placing each concept that may be expressed by a word in a multi-dimensional semantic space. Furthermore, the theory provides empirically-derived equations for modifying the affective meanings of words according to the context in which they appear. Using these models, as well as numerous annotated lexicons produced by various sociological studies, we extend the simplistic definition of sentiment used in automatic text analysis today. We show that Affect Control Theory is useful in the Sentiment Analysis task of polarity classification, achieving a significant improvement over a classifier driven by a standard SA lexicon.

# Undergraduate Posters

## **Different Aspects That Are Put Into Creating a Website**

**Presenter:** Brandi Glenn, Missouri Western State University [bglenn.2007@yahoo.com](mailto:bglenn.2007@yahoo.com)

I'm going to show you the different levels that it takes to create a website. I'm going to do this by showing screen shots of the webpage and what you have to do at each level.

## **Accounting and Computer Science: Strong partners when choosing a college major and/or minor**

**Presenter:** Christine Ferguson, Northwest Missouri State University  
[S507934@mail.nwmissouri.edu](mailto:S507934@mail.nwmissouri.edu)

In the business world today, you rarely see accountants doing all their work by hand. Instead, they are using the most up to date programs that were created by people in the computing area. By choosing to have both as a major/minor, you increase your career options exponentially. It is one thing to make an accounting program, but it's another thing to make one and know how it all would be perceived by a small business owner with little accounting background. Whether you use your computer skills for accounting purposes or you use your math skills for computing, an accounting and computer science major/minor will be very beneficial in the long run.

## **Using Concept Maps to Improve Teams' Abilities to Navigate Ill-Structured Problems**

**Presenter:** Melanie Hendricks, Southeast Missouri State University [mdhendricks1s@semo.edu](mailto:mdhendricks1s@semo.edu)

**Collaborator:** Dr. Nilakanta, Iowa State University

Ill-structured problems are complex and often require a significant amount of domain knowledge to solve. Most problems in the field of User-Centered Design (UCD) fall into the classification of ill-structured. Due to frequently changing technologies, growing organizations, and inconsistent environmental factors there is often no one right path and one right solution for a given client. New professionals and students in the field of User Centered Design (UCD) struggle as they attempt to apply UCD concepts to tackle the ill-structured problems. There are few tools to aid them in acquiring this domain specific knowledge and promoting the higher order thinking necessary to navigate the ill-structured problems. In this study, an interaction model consisting of a concept map containing UCD methods was tested. The goal of the concept map interaction model was to help teams who are new to the UCD domain learn the necessary concepts and process which they may use to navigate ill-structured client problems. The study is a two-part study: The first part consisted of usability testing of two interaction model designs; the second study used the improved interaction model and proposed an ill-structured problem to a newly formed team. It was found that teams responded to imposed structure which enabled them to better navigate the given ill-structured problem. Though we gained only preliminary results, teams that had more structure and spent more time using the UCD interaction model were less likely to focus immediately on developing a final product. Additionally, the final product that these teams produced more closely resembled the final product of experts.

## **Achieve with AITP**

**Presenter:** Maria Spurgeon, Missouri Western State University [mjspurgeon@missouriwestern.edu](mailto:mjspurgeon@missouriwestern.edu)

My poster will be a presentation about how our Missouri Western AITP Organization has provided a great opportunity for leadership experience, as well as socializing with other Computer Information Systems students, in our university as well as nationwide. Our Missouri Western AITP Organization has hosted multiple Community Learning classes to help the public learn how to use their computers, which served as a fundraising event. Having the chance to work and socialize with other CIS students is very helpful. We also have a "tutoring" program that allows students to ask other students for help in classes. Once a year, the National AITP Organization hosts a competition. Every AITP Organization nationwide travels to the same location to participate in social events, contests, job fairs, and other activities. It's a

wonderful place to test your knowledge against other CIS students across the country. You can win prizes, or just have fun meeting new people. Every year a different University hosts the competition. Every year you get to travel to a new city and experience a new state.

### **Computing and Banking Industry**

**Presenter:** Jasmine Black, Northwest Missouri State University [S504433@mail.nwmissouri.edu](mailto:S504433@mail.nwmissouri.edu)

This poster will be about computing and the banking industry. The past few summers, I interned at UMB Financial Incorporation. During that time I worked on many different projects, such as their online banking web application and mobile device application. While working on these projects, I learned that the banking industry uses computing to help making banking easier for their customers. For example, a customer doesn't have to travel to a banking branch to view how much they hold in their account or pay a bill. Instead they can sign up for online banking which gives them abilities to view their accounts, pay bills, or transfer money all over the internet. Or they could download UMB's mobile application to be able to view their account, pay bills or transfer money all from the palms of their hands. When you travel to the bank to cash a check, a teller uses a database to search for your account which is an example of computing. There are many more ways computing is important to banking which will be shown in my poster presentation while also explaining my experience during my internship.

### **Assistive Technologies: Above the Glass Ceiling**

**Presenter:** Danyel Becker, Missouri Western State University  
[deb3209@missouriwestern.edu](mailto:deb3209@missouriwestern.edu)

Through the ages there have been limits placed on different groups of individuals in the job market place. Inequality based on gender, appearance, race, and physical disabilities keep many from full participation in society. Computer Science is bridging the gap in new and inventive way for all these groups. Gaming, telecommuting, adaptive technologies all bring those with disabilities closer to full inclusion than ever before. October is "National Disability Employment Awareness Month" and this is highlighting the strides being made which allow more individuals into career paths once unattainable. A large portion of this credit is due to the new computer technologies. Speech recognition and audio learning devices make school possible for the blind. Teletype systems make communication between hearing and non-hearing possible in the workplace and from home. STEM grants and research have made jobs possible for persons once unemployable due to appearance. 3D virtual environments like Second Life, Ever Winter Nights and Alice level the field, giving more a place at the table. Computer science is the way to the future for all groups.

# Lightning Talks

## Training Boltzmann Machine for Cancer Diagnosis

**Presenter:** Kriti Chakdar, University of Kansas [kriti.chakdar@gmail.com](mailto:kriti.chakdar@gmail.com)

Wisconsin Diagnostic Breast Cancer Dataset is used to train a Boltzman Machine for automated Cancer Diagnosis. This talk will describe how the mechanism works, how it is tested with additional data, and how efficiency, specificity, etc. are measured.

## Art Valley

**Presenter:** Archana Kanakamedala, University of Missouri-Kansas City  
[archanakanamedala@gmail.com](mailto:archanakanamedala@gmail.com)

Web users are spending more time on buying paintings via various websites. However, even after spending a tremendous amount of time online in searching for a good deal or painting, they might not find the desired one. Hence, there are special needs for a platform where one can easily browse art and paintings based on given categories and make a bid on the works through simple steps. The Project entitled “Online Auctioning for Art Gallery (aka, Art Valley)” (developed as part of the requirements for CS551 Advanced Software Engineering at UMKC) is a Web portal that is aimed at providing a user friendly platform to diverse user communities who are interested in art and paintings. The system of the Art Valley framework is designed based on the Service Oriented Architecture (SOA), where services can be easily identified, integrated and reused. The Art Valley system is composed of important services including text-to-speech (mainly for people who are visually impaired), language translator (translates a web page in one language to a desired language such as Spanish, Chinese, etc), and countdown timer (used for bidding the gallery items). In this project we have fully implemented the Art Valley system using Web Service technologies (C# and .NET) and deployed it on an Amazon Cloud Computing platform. We believe that the Art Valley system would be widely popular among art lovers. I sincerely thank my colleagues Ramya Krishna Surapaneni and Niharika Gottipati, for their commitment and help towards the successful completion of the project. The project video is available on [www.youtube.com](http://www.youtube.com/watch?v=FxalTZV2FvU) at: <http://www.youtube.com/watch?v=FxalTZV2FvU>.

## Non-Profit Project with Potential for National Recognition

**Presenter:** Dee Hughes, Missouri Western State University [dhughes2@missouriwestern.edu](mailto:dhughes2@missouriwestern.edu)

I would like to introduce a two semester undergraduate project introducing students to the process of project development, design, modeling, documentation and implementation for a sponsored non –profit organization. The project is aimed at creating a public-access control system for a local library. Currently the library has a costly licensed program and would like software that could be maintained in-house. This project, if accepted, has the potential to be presented at the Association of Information Technology Professionals National Collegiate Conference, AITP NCC. The conference allows project teams to present to IT professionals from all over the country. This event offers IT/IS college and university students the opportunity to network with industry giants (including Microsoft and Google), apply for scholarships, and to compete nationally for prizes. Often, placing in a national contest results in a job offer. This project is in the inception stage, but has the potential to produce a real world working system giving students team project experience, assists a non-profit with a complete software package at no cost, and presents the opportunity to compete in a nationally recognized conference competition.

## Why People Think a Computer Career is Easy

**Presenter:** Nirupama Meesala, Kansas State University [nirupama@ksu.edu](mailto:nirupama@ksu.edu)

Computer Science is not an easy career, either for men or for women. But all other engineers in this world, excluding Computer Engineers, feel computing science is easy to study and to find jobs. Why? We know it is not easy. We struggle to make algorithms work. We make our brains work and in turn make the computer work in accordance with our brains. I have a few friends who argue about our careers. Their

point is "While you computer people find a job faster, we struggle to make our resumes work. You guys are millionaires". There is annoyance in their tone. This world has been computerized. All other branches of engineering depend on computers everywhere. That is why Computer Science is a faster growing field in terms of research and the market. This talk discusses the tremendous growth in the field of computers and how everybody uses computers in their daily activities and makes our career.

### **Ways to bring more women into Computing**

**Presenter:** **Sravya Boggavarapu, Kansas State University** [sravayab@ksu.edu](mailto:sravayab@ksu.edu)

In the present scenario, we observe that in computing, the ratio of men to women is higher. The figure suggests that it is primarily a male discipline, but in reality computing is one field where the opportunity for women to work and excel is more compared to other fields. In order to improve the proportion, we can concentrate on a few things to involve women in computing. Mainly, we can emphasize the female-friendly aspects of computing. For example, the nature of work/development means that flexible working practices are much easier to adopt than in some other professions. We can talk to women who come to user group meetings and invite them to speak. Being friendly and asking women to speak up, we open the door for participation. We can change the perception of women, by giving them knowledge about the non-programming aspects of development, such as project management, training and user interface design, which in general are women's strong points. In this talk, I would like to explain in detail the above mentioned points.

### **Does Gender matter in Computer Science?**

**Presenter:** **Spoorthy Reddy Parne, Kansas State University** [spoorthy@ksu.edu](mailto:spoorthy@ksu.edu)

Computer Science is presumed to be a field which is dominated by male students, maybe, but does it actually matter? While computer science deals in computer based languages, computer code is still a language, and linguistics is an area where women can excel. There have been a number of notable women who have contributed greatly to the world of computing. While fewer women are seen pursuing computer studies, there is still a lot of support from those who believe that women do have a place in the world of computing

### **Women in Computing in India**

**Presenter:** **Sindhuja Edupuganti, Northwest Missouri State University**  
[sindhuja.edupuganti@gmail.com](mailto:sindhuja.edupuganti@gmail.com)

Computers are ruling the world but, according to surveys, the number of computer graduates has been decreasing year to year in the United States over the last two decades. The reduction is due to underestimating the effectiveness of their abilities in performing their tasks, their comfort level in mingling with the male culture and their ability to keep track of difficult curriculum activities. The situation is different in India; the number of women graduating in Computer Science has been rapidly increasing over the past two decades. India follows a patriarchal system in which properties are transferred to sons, and girls live under the control of family with many restrictions. Indian women want to gain their independence by securing jobs. In India, more opportunities are available in the IT sector, so most women are choosing the field of CS. Since most women have a strong knowledge of Mathematics, they are not facing much trouble in CS. Some students were exposed to computers in secondary level education, some at the college level and some at the University level. One third of women have said that no one influenced them to enter the CS field, whereas two-thirds were influenced by relatives, friends or parents. Some Indian women want to join the workforce after completing graduation and some women want to continue their studies in either the management field or a technical field in order to earn a high pay-scale. Other women are in a situation to choose either the workforce or studies, depending on the admission they receive and the salary they obtain. Fewer women will transfer fields after getting admitted in CS because 1) they adapt to their courses easily, 2) they feel bad if they take a step backward and 3) they see a bright future after the completion of the degree.

## **The Echo Smartpen, Writing Modernized**

**Presenter:** Isabella Dell, Northwest Missouri State University [S502230@mail.nwmissouri.edu](mailto:S502230@mail.nwmissouri.edu)

The desire to pass off one's knowledge to their progeny has always existed; initial efforts being through the word of mouth, and later ones by applying their knowledge to a physical object in an effort to preserve it. These efforts started off with basic carvings into animal hides or shells, evolving into etchings in clay to be baked later. Not long after this, pigment based writing came about, with the initial model of the pencil implemented by the Romans. There are also the ink pens found throughout history, initially requiring dipping to soak ink into the stylus and later cartridge based systems used today. Today, writing implements are being modernized again, by the Livescribe Echo Smartpen. Utilizing various optical recognition and sound recording technologies, the pen can record handwriting, perform math functions and even time synchronize notes with the audio recorded. These functions and a few others will be examined throughout the presentation.

## **Navigating the Social World**

**Presenter:** Elise Jones, Northwest Missouri State University [s402315@mail.nwmissouri.edu](mailto:s402315@mail.nwmissouri.edu)

This talk will focus primarily on the leading social networks and will skim over three topics concerning them. First, what they are and how a company should go about developing content strategies for the specific medium; second, easy methods for merging social platforms in order to shorten work time; and third, how POVs and social audits can, in the long term, benefit a company in its entirety.

## **The Importance of Networking**

**Presenter:** Andrea Kellner, Missouri Western State University [akellner@missouriwestern.edu](mailto:akellner@missouriwestern.edu)

This is going to be a lightning talk about the Importance of Networking with people in the computer industry. A common thought process with (not all) people in the computer science major is that they do not like talking to other people. To survive in the world today, one must learn how to make and keep contacts. Contacts can make a job much easier. Every organization has limits with its resources. The contacts that are made today can sometimes alleviate the pressures of the resource limits. Sometimes within any industry, the contact one knows can make the difference in receiving a contract.

## **Understanding Intelligence**

**Presenter:** Rama Raghavan, University of Missouri-Kansas City [ramaraghav.indian@gmail.com](mailto:ramaraghav.indian@gmail.com)

The Basic question that I address is "What is intelligence that humans have but machines do not?" The main solution to deal with computational intelligence problems is to do a detailed study of brain. This is a new way to Real intelligence and not Artificial intelligence. And the model proposed here is called "Memory Prediction model", which mainly deals with the ability of the brain to make predictions about the future. As they say, "New ideas are often old ideas repackaged." Here I repackage known facts and information on the human brain and connect it to how to create intelligent machines. It is true that most powerful things are simple, because the powerful and complex human brain which most scientists have dared not to peek into, has been on the verge of getting resolved. I use this information as a basis for my talk which is inspired by the book, "On Intelligence" by Jeff Hawkins.

## **Emerging Technologies**

**Presenter:** Sriekha Bade, Northwest Missouri State University [lekha27@gmail.com](mailto:lekha27@gmail.com)

This talk deals with the combination of Dot Net and Flex, which are emerging technologies in the present day. We can develop a project which is more flexible and user friendly with this combination. Flex has many advantages compared to other GUI's. This is mainly used for graphical presentations with which the GUI is more attractive to use and also has a feel good view.

## **Work Life Balance for Women in Computing**

**Presenter:** Kapilaarathi Swaminathan, Missouri Western State University  
[kswaminathan@missouriwestern.edu](mailto:kswaminathan@missouriwestern.edu)

Stress has become the most common part of the daily routine in all human life. In the modern and fast moving world, both men and women are facing difficulties in balancing work and life. When it comes to working women especially, they are the most stressed people, and women in computing experience stress most commonly. Work-life balance should be considered for all women, especially those in IT, because work in software gives more stress to the brain than any other parts of the body. This job has an effect on many people mentally. Men in computing are different from women in computing, as women have to consider both work and personal life responsibilities. She is so precious and strong a personality who can handle multiple responsibilities. The latest report shows that women in computing have shown a rapid decrease due to lack of interest and stress in this work. Basically, women are strong enough to do the same things as men do in IT, but it is important for women to understand how to balance work and life and achieve in career and life responsibilities. Many women have achieved in computing as well in personal life. These women knew their work balance and they made it. India, which is now the leading position in computing, has most women in the field. When it can happen in India why not in the USA? How can more women get into the computing field and tame their life in this competing work with men? When a woman knows her work-life balance she is there in her success story of life in computing.

## **Considerations For the Project's Success**

**Presenter:** Shravya Rao Gangavelli, Northwest Missouri State University  
[S509467@mail.nwmissouri.edu](mailto:S509467@mail.nwmissouri.edu)

My presentation deals with project management. A project is defined as having the characteristics of a defined beginning and end, a specific goal or goals, a series of complex or interrelated activities, and a limited budget. In the beginning stages, project success was measured by the factors of time, budget, and project performance. Also, recent research in the project implementation field has resulted in the construction of a complex model of implementation success that incorporates 3 criteria: 1) technical validity, 2) organizational validity, and 3) organizational effectiveness. A model of project success reveals that success evolves from the project being technically correct and interfacing effectively with the client organization. The model also shows that success is composed of internal and external factors, and that it is necessary to develop an adequate program in regard to knowing when to determine project success. This presentation deals with nine knowledge areas which play a vital role in management of a successful project.

# Panels

## Graduate School Information

The aim of this panel is to provide undergraduate students interested in graduate school information on how to apply and get into graduate school and to pass along tips for success to potential and current graduate students (particularly newer graduate students).

### Panelists

Lillian (Boots) Cassel, PhD  
Professor, Department of Computing Sciences  
Villanova University

Patty Lopez, PhD  
Logic Validation Engineer  
Intel Corporation, Fort Collins Design Center

Joanne Cohoon, PhD  
Senior Research Scientist  
National Center for Women & IT

Kim Wall  
IT System Analyst Lead  
Principal Financial Group, Des Moines, Iowa

Bridig Halling, PhD student  
Electrical Engineering & Computer Science  
University of Kansas

## Breaking the Glass Ceiling

Join industry leaders who will discuss building a career in technology. The panel will discuss building awareness of your technology career options, and leveraging your technical skills across a very broad industry. The panel discussion topics will include:

- Developing your career in technology across the many phases of a typical career (30+ years)
- Nurturing your Career and managing your brand
- Communicating and connecting to the “women in technology” community
- Sharing information to support career success and ensure a long term sustainable career in Technology

### Panelists

Cindy Lundstrom, Senior Associate (Moderator)  
Booz Allen Hamilton

Richelle Alvers, Storage Management Architect  
Hewlett Packard Corporation

Lauren Larscheid, Client Executive  
Cisco Systems

Sonia Sharma, Technical Account Manager  
Google Corporation

Michelle Sommers, Technical Project  
Manager, Senior Team Leader  
Cerner Corporation

## Imposter Syndrome

This panel addresses confidence problems that women often have upon entering the computing field. Many young women starting out in undergraduate computing majors and believe that they are not as qualified as men. At the Grace Hopper conference this past fall, the Imposter’s Panel was made up of technology female executives, who openly shared their confidence problems, especially their original belief that they were not as qualified as men.

## Panelists

Julia Stefani, IT Project Manager (Moderator)  
Monsanto Corporation

Michelle Brush, Software Engr. Team Leader  
Garmin International

Alyssa Daw, Software Engineer  
Google Corporation

Yuvonise Thurmond, Senior Applications  
Programmer/Analyst, Kansas City Power &  
Light

Jeanne Johnson, Solution Specialist- Data  
Center, Microsoft Corporation

## Workshops/Special Sessions

### Crushing Gender Stereotypes

*BJ Wishinsky, Community Programs Manager  
Anita Borg Institute for Women in Technology*

Stereotypes can hold people back from every-day and personal evolution, and underlying stereotypes can prevent people from becoming all they can be. This interactive workshop will help participants learn how to 1) work around the impact of stereotypes and reduce the impact they have on your everyday evolution, 2) reduce the impact personal stereotypes have on your own productivity and 3) gain savvy skills and tools to succeed as technical women in industry and academic careers.

### Recruiting Women Into Your Computing Major

*Joanne McGrath Cohoon, Senior Research Scientist  
National Center for Women & IT*

Even as we witness tremendous growth in computing occupations' size and influence over our lives, women continue to be underrepresented in this field. Faculty have the opportunity to reverse this trend through both active recruitment and courses that engage and prepare women as well as men for computing careers. This session will present research-based methods for successfully attracting women into your computing major. Materials created by NCWIT (National Center for Women & IT) social scientists and designers will be provided and discussed to clarify methods that have been shown effective.

### How to Get and Nail a Technical Interview and Internship!

*Erin Stancik, Technical Recruiter, Microsoft  
Jeanne Johnson, Data Center Technology Solution Specialist, Microsoft*

We'll go over everything from your resume to your elevator pitch, to problems that could come up in your interview and how to approach them and demonstrate your problem solving skills. And finally, we'll discuss how to make the most of your internship and/or free time in order to increase your chances of getting your dream job!