

SERVICE STATEMENT
LEEN-KIAT SOH

1. INTRODUCTION

I have dedicated a good portion of my professional life to services for the department, university, and the greater professional communities related to my research, teaching, service, and outreach activities. I have been recognized by the department and the university for my service:

- Honored twice by the CSE Department for my service (**CSE Department Recognition Award**, for AY 2010-2011; and **CSE Chair Special Award**, in 2004)
- Awarded the **University-wide Student Impact Award Outstanding Advisor of the Year (AY 2010-2011)** for my role as faculty advisor to the Malaysian Student Association at UNL (NUMSA), having been earlier named as one of three finalists for the UNL Student Organization New Advisor of the Year in 2006
- Received **UNL Parents Association Certificate of Recognition for Contributions to Students in 2014**.

While I have been on several program committees and served as reviewers for international technical conferences in my research areas, and served as reviewers on NSF proposal panels, most of my time, effort, and attention have been paid to departmental and university services, especially in curriculum and outreach to promote both participation and its diversity in computing. Towards that end, since 2007, I have assumed several leadership roles at the departmental, university, and national levels. nA particular focus that I have had with most of my service activities is on making CS more accessible to K-12 students and college students alike, locally and nationally.

Please refer to *Appendix F* for sample materials from two outreach projects.

2. HIGHLIGHTS

Here are some highlights of my service activities:

- I led and was a co-chair of the 2015 International Workshop on Issues with Deployment of Emerging Agent-Based Systems (IDEAS) co-located at AAMAS'2015, Istanbul, Turkey. The Workshop was successful and we have been encouraged to organize the workshop again at AAMAS'2016, Singapore.
- I am leading and a co-chair of the Conference Review Supporter Software Committee for SIGCSE and ITiCSE, and thus will serve on the organizing committees for the SIGCSE and ITiCSE conferences for 2016, 2017, and 2018 (six conferences altogether). Since my election, I have been interacting with the software vendor for upgrades and working with the program and conference chairs on review and submission policies.
- I am a co-chair of Local Arrangements for the International Computing Education Research (ICER) conference for 2015, Omaha, Nebraska, August 9-13. I worked closely with the conference chairs of ICER on arranging local activities for the conference participants.
- I was a member of the executive committee of the National Center for Women and Information Technology (NCWIT) Academic Alliance (2010-2012) (Co-Leader, NCWIT Recruitment and Engagement Project, 2010-2012). During my term, our recruitment and engagement efforts helped increase both the institutional membership and individual membership significantly with increased access of resources as well. We doubled NCWIT's outreach effort. NCWIT is now the de facto leader in the US that promotes and increases women participation in IT and computing.
- I am an Associate Editor for the journal *IEEE Transactions on Education*. Furthermore, I have (1) served as a reviewer for the journals and conferences significant in my research areas, (2) served as a program committee member for several top conferences, such as *AAMAS*, *SIGCSE*, and *ITiCSE*, and chairing conference sessions, and (3) chaired and organized several *AAAI* workshops. Please refer to my CV for a complete list. I have also served on several NSF panels.

- I organized the Nebraska Tapestry Workshop (July 23-25, 2012), assisted by Chuck Riedesel of CSE. This workshop invited eight speakers from around the country with 23 participants from Nebraska, Illinois, Colorado, Texas, Iowa, Virginia, Utah, and California. This workshop seeded the Nebraska NextSteps group and the forming of the first CSTA local chapter in the state of Nebraska.
- I am a founding member of the Computer Science Teachers Association (CSTA) NE-Huskers Local Chapter (2012 – present) (Secretary, 2012 – 2015). With Lincoln Public Schools (LPS) and non-LPS school teacher members, we have organized several outreach and training activities locally and regionally (e.g., at NETA2012, NETA2013 conferences, and CS Education Week activities) since the founding of the chapter. We also helped our colleagues at the University of Nebraska at Omaha (UNO) form the 2nd local chapter of CSTA in Nebraska with teachers at the Omaha Public Schools (OPS). We will continue to pursue policy change, community building, and broadening participation in computing throughout the state of Nebraska.
- I served as Chair of the College of Arts and Sciences Curriculum and Advising Committee (AY2011-2012) (Member AY2009-2010, AY2010-2011). I oversaw and, working with Associate Dean Debbie Minter, co-led the effort to help A&S departments explore, evaluate, and reduce some of their major programs to 125 credit hours. This was a significant undertaking as it involved more than 20 departments and programs.
- I am the Faculty Advisor for the Nebraska University Malaysian Student Association (NUMSA) (2005 – present) and work closely with dozens of new Malaysian students every year at UNL to organize about ten cultural events each year. I also advise students on their study and career activities. NUMSA has more than 100 active members annually.
- I am the leader of the Informatics Minor group (Fall 2012 – present). We have developed a new interdisciplinary minor, i.e., Informatics Minor, and have it approved by the College of Arts & Sciences. The process has involved working with five colleges and numerous department and administrative offices. The Informatics minor will help UNL serve the student population better, preparing with more attractive skills to succeed in their careers, be it in the industry or research or graduate studies. It will help prepare students with computing skills that are needed now to excel in today's digital and data-rich problems and challenges. It will help advance the readiness of UNL students in becoming leaders through informatics as a common language across disciplines. Our first cohort has 22 enrollments in the new CSCE100 Introduction to Informatics course this Fall 2015.
- I was the PI for an NSF Research Experience for Teachers (RET) project for Richard Powers and Lori Feldman, school teachers at Lux Middle School, Lincoln, NE (AY2009-2010, AY2010-2011). I helped them incorporate computational thinking into their classrooms. Furthermore, Richard Powers was encouraged and inspired by the RET project and experience that he decided to enroll at UNL to pursue a doctorate degree in instructional technology with the College of Education and Human Sciences. Richard recently successfully defended his doctoral dissertation (Spring 2015).
- I served as Chair of the CSE's Curriculum Committee (AY2007-2008, AY2008-2009) and led the process of making our Computer Science and Computer Engineering programs ACE-compliant with the University, and our Computer Science program compliant with the new College of Arts & Sciences Distribution Requirements.
- With the Girl Empowerment and Mentoring (GEM) project, we directly impacted more than 350 young students and their parents, exposing them to and increasing their interest in computing and computer science.

3. MORE DETAILS OF SELECTED ACTIVITIES

My philosophy to the service component is to be responsible and contribute something useful—making positive changes and long lasting impacts—to the department, the university, and the broader community beyond UNL. Here I highlight six efforts that have demanded leadership, persistence, problem solving, and diligence on my part to accomplish goals.

Leader and Co-Chair, Organizing Committee, 2015 International Workshop on Issues with Deployment of Emerging Agent-Based Systems (IDEAS) (May 4, 2015). The IDEAS workshop set out to discuss a set of challenging topics related to the application of intelligent agent and multiagent

technologies to solving real-world problems and producing deployed applications. The workshop served as both (1) a forum for discussing and sharing cutting edge applied agent research (including a place to discuss difficult challenges necessary to overcome to produce real-world systems, as well as lessons learned from initial deployments), as well as (2) an incubator for Innovative Applications Track research to be presented at future AAMAS conferences. Working with the workshop's Steering Committee, we developed the workshop design and promoted the workshop accordingly. The Workshop consisted of four full paper and 2 short paper presentations, one invited talk, and a fully engaged breakout session. More than 15 participants attended our workshop and we have been encouraged to organize the workshop again for 2016. This Workshop will help bridge industry R&D in the areas of multiagent systems with the academia for years to come.

Leader and Principal Investigator, The Girl Empowerment and Mentoring (GEM) Project (AY2008-2009, AY2009-2010, AY2010-2011, AY2011-2012). In 2008, I as the Principal Investigator received a seed grant from the National Center for Women and Information Technology (NCWIT) on "Girl Empowerment and Mentoring (GEM) for Computing". With this project, we organized four years of GEM collaborative essay writing contests, Shadow-A-Mentor Days, and local school visits. With support from the Department in terms of staff, facility and additional financial support, we were able to directly impact more than 350 young students and their parents through the essay writing contests and our numerous local school visits. This project aimed to promote the study of computer science among middle and high school students by empowering them with the interest and experience to pursue a degree, and subsequently, a career in computer science. The project employed over the years about two dozen female undergraduate students at UNL as mentors (role models/big sisters) for the GEM participants. These GEM mentors worked with their charges regularly for 10-12 weeks each year to help participants explore, investigate, and report on how information technologies and computing have impacted the society. And each team of participants wrote their technical essays collaboratively. The teams behind the winning submissions were awarded prizes, as well as scholarships to those students with high GPAs and choosing to attend UNL to major in CS or CE. According to an interview for a news article on UNL Announce, Beth Neilsen, one of the GEM mentors, commented that *"The GEM program has been a wonderful opportunity for me to get more involved in the community and meet and mentor lots of amazing girls. My favorite part has been getting to know the students and spending time with them. It is especially rewarding when you see these students come back year after year. It really makes you feel like you are making a difference in their lives."*

Leader, UNL Informatics Minor group (Fall 2012 – present). In Fall 2012, then CSE Department Chair Steve Goddard and then Interim Dean of the College of Journalism and Mass Communications Charlyne Berens convened a meeting of several department chairs in the College of Arts & Sciences to initiate discussions on a possible interdisciplinary program to better prepare students across campus for their future careers. Since January 2013, I have led the group with active participants, including Matt Waite (Journalism), Matthew Jockers (Digital Humanities), Gary Kebbel (Journalism), Brian Moore (music), Elizabeth Ingraham (Arts and Art History), Michael Burton (Textiles, Merchandising & Fashion Design), Duane Shell (Education Psychology), Chuck O'Connor (Fine and Performing Arts), with updates and contributions from Steve Goddard and Charlyne Berens. After a year of discussions and further investigations of similar "minor" programs at other universities such as the UIUC's Informatics Minor at the Illinois Informatics Institute, we designed an 18-hour Plan A Interdisciplinary minor. Subsequently, I met numerous times with the advising office at A&S, the Associate Dean Debbie Minter at A&S, and the catalog bulletin manager, and revised the proposed program subsequently with the group. Further, to prepare for the approval process, I, with help from several group members, secured letters of support from the College of Journalism and Mass Communications, College of Fine and Performing Arts, Department of Arts and Art History, Department of Education Psychology, Department of Sociology, Department of Statistics, Department of Textiles, Merchandising & Fashion Design, Nancy Mitchell representing UNL Undergraduate Studies, the Center for Research in Digital Humanities, and the Director of the Computational Sciences Initiative Jennifer Clarke. The Informatics minor was approved at the A&S college level in December 2014 and now has more than 20 students enrolling in CSCE100 Introduction to Informatics course this Fall 2015. This new Informatics minor will help UNL serve the student population better, equipping them with more attractive skills to succeed in their careers, be it in

the industry or research or graduate studies. Specifically, it will help prepare students with computing skills that are needed to excel in today's digital and data-rich problems and challenges. It will help advance the readiness of UNL students in becoming leaders through informatics as a common language across disciplines.

Organizer, Nebraska Tapestry Workshop, July 23-25, 2012. I applied and obtained NSF funding via the University of Virginia's Tapestry Workshop grant to organize a Nebraska Tapestry Workshop here at Lincoln, NE. My co-organizer was Chuck Riedesel. The workshop had 2.5 days of presentations, hands-on activities, and breakout sessions, with eight speakers (Jim Cohoon, Associate Professor of CS at the University of Virginia, Joanne McGrath Cohoon, Senior Research Scientist at NCWIT, Ann Drobnis, Albert Einstein Distinguished Educator Fellow at the NSF, Wendy Dubow, Research Scientist and Director of Evaluation at NCWIT, Lynn Lambert, Associate Chair of the Physics, CS, and Engineering Department at Christopher Newport University, Seth Reichelson, high school teacher at Lake Brantley School, FL, Phil Wagner, Exploring Computational Thinking at Google, and Mary Williams-Young, Principal of Lake Brantley School, FL) and 23 participants from Nebraska, Illinois, Colorado, Texas, Iowa, Virginia, Utah, and California. The workshop was a success and planted the seeds for future activities. After the workshop, several of us continued to meet and subsequently formed the first CSTA Local Chapter in the state of Nebraska. Furthermore, I attended the Tapestry Organizer Training Workshop in 2013 and shared my experiences and lessons learned with the next batch of workshop organizers. This workshop was the first that UNL has done to engage secondary school teachers on CS education and diversity in computing.

Founding member of Computer Science Teachers Association (CSTA) NE-Huskers Local Chapter, NE, 2012 (Secretary of CSTA NE-Huskers Local Chapter, 2012 – 2015. With participants of the Tapestry Workshop, I co-founded the local chapter officially early 2013: CSTA NE Huskers local chapter. As a chapter, we have participated in every CS Education Week in the past three years, such as a mini symposium with three talks at the Information Technology Focus Program and the Hour of Code celebration at the Champions Club on UNL campus, and are planning on another for this year with the Lincoln Chamber of Commerce. The CSTA local chapter also participated in NETA 2013, 2014, 2015 and presented tutorial sessions and general CSTA session to K-12 teachers. We also helped Omaha form a CSTA local chapter called Omaha-Metro (2nd local chapter in the state of Nebraska). I approached Professors Harvey Siy and Brian Dorn at the University of Nebraska at Omaha (UNO) and shared with them our experience and documents to help them apply for their local chapter. The local chapter meets regularly at least once a month and we have recruited new members, including two high school teachers who have started teaching CS at their schools. Overall, I see that these efforts are key to improving the state of CS education in Nebraska, K-12 and beyond. Building strong ties with the teachers at the secondary level will help our department build stronger pipelines engaging parents, teachers, and students, as well as improving student preparation to succeed in all disciplines. We have expanded from about 7 members to an active group of more than 20 members plus many more on our mailing list.

Member, Executive Committee, National Center for Women and Information Technology (NCWIT) Academic Alliance (2010-2012) (Co-Leader, NCWIT Academic Alliance Recruitment and Engagement Project, 2010-2012). I was invited to join the Executive Committee of NCWIT Academic Alliance (AA) in 2010, and became a co-leader of the *Recruitment and Engagement* (originally Recruitment and New Member Engagement) (R&E) Project. During my term as a co-leader, we designed and deployed several surveys to collect membership data, instituted and facilitated mentor-mentee partnerships, promoted NCWIT resources, organized NCWIT meetings at conferences, and organized travel awards, to name a few of initiatives and efforts that we contributed. We were particularly successful, as reported in the NCWIT Summit 2011, that we helped increase both the institutional membership and individual membership significantly. The Program-in-a-Box (NCWIT resources) downloads were up by 230%, 2010 NCWIT Web pages views were up 36%, large increase in Blog mentions of NCWIT (>300 vs. <200), more than 60% of AA members reported increased female enrollments, and we more than doubled NCWIT's outreach effort. I am proud of my accomplishments, and the outcomes achieved during my term as an Executive Committee member and a Co-Leader for the R&E Project at NCWIT, helping grow NCWIT AA to what it is now, with more than 800 individual members and more than 300 college and university members.