

My Work on Mentoring
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Early Exposure: Having grown up as a Tamil in Sri-Lanka for the first 20 years of my life, I understand first-hand the tragedy that can result from discrimination and violence. One of the memorable moments of my life was visiting the jail cell of Nelsen Mandala in 1999, when I visited Robben Island during a trip to Cape Town for a computing conference. Perhaps my early recollections of helping the disadvantaged go back to the days with the Irish nuns in Sri-Lanka. I played the melodica and later piano accordion in the school band while a pre-teen and a teenager and they used to take us to the Home for the Aged, Home for the Severely Disabled and the well-known Mental Hospital (Angoda) in Sri-Lanka to play music for the residents. It was heart wrenching but exposed me to people who were different from me.

Initial work at Honeywell: I have been involved with mentoring efforts since early on in my career. My early work on was at Honeywell in 1987-1988 when I was part of the Diversity committee at Honeywell's Corporate Systems Development Division. This effort was headed by the Vice President of the division. We discussed ways of hiring more women and from the African American community, retaining and promoting them. This gave me early exposure to gender and racial inequity that existed back in the 1980s in the US and the need for mentoring everyone in the community.

Work at MITRE: I joined MITRE in January 1989 and for the first six years I focused on establishing my research and development efforts. While the technical staff at MITRE were mostly men, I included a highly qualified female member of technical staff in most of my projects. Research papers were published in conferences and journals with these team members. I was promoted to a Department head in 1995 and that is when I focused my efforts on mentoring so that everyone had the opportunity. I grew my department from 8 to around 28 staff. While most members were Caucasian male, I also hired an highly qualified African American male research scientist as well as three highly qualified women scientists as members of the technical staff (some were internal transfer). It was not until 1999 that I started giving talks to female groups about the need for mentoring. My first such talk was to WITI (Women in Technology International) conference in Cary, North Carolina in September 1999. After that I started giving talks to girls at Smith College in 2000 motivating them to pursue a career in Computer Science as well as at the women's network at MITRE (2003).

Work at NSF: While I was on IPA at NSF from MITRE, I worked with the team on the initial Women in Cyber Security initiative (from SUNY Buffalo) and participated in the inaugural panel organized as part of the Secure Knowledge Management (SKM) workshop. I have continued to participate in Women in Cyber Security panels associated with SKM in subsequent years (e.g., 2008, 2021). In addition, I gave talks at universities in EPSCoR states (e.g., Arkansas, Oklahoma, and Louisiana) at multiple conferences to promote CISE (Computer and Information Science and Engineering) activities. I also participated in panels at CRA-W workshops (e.g., early career workshops) while I was at NSF. In addition, I gave a featured address at the Society for Women Engineers conference held in Baltimore in March 2004.

Work with students at UT Dallas: I joined the University of Texas at Dallas in October 2004 and I actively started recruiting students from the female and minority communities. Over the past 16 years I have graduated 22 PhD students out of which 11 are women and three from the African American, Hispanic American and the LGBTQ communities. While most of the PhD students are men from East Asia and fewer from South Asia, I also make every effort to recruit Caucasian students and organize panels on engaging Rural America on Education. I have mentored numerous students regardless of their gender or ethnic origin. I have given various talks especially to women's groups such as the inaugural Grace series lecture at the university in April 2015, Girls who code at Plano, Allen and Frisco school districts, Society of Women Engineers Dallas chapter and at DFW ATW (Association for Technology

Women). and also mentor undergraduate female students. Finally, I am part of the faculty mentors who attend Grace Hopper conference together with our students and I have also served on the university's mentoring committee and have participated in multiple panels.

Women in Cyber Security: It was not until Fall 2014, after celebrating the 10th anniversary of the Cyber Security Institute that I founded back in 2004, that I started working tirelessly to promote women and underrepresented communities in cyber security data science, and Services computing/cloud. Caucasian women are significantly underrepresented in Computer Science and have made every attempt to recruit from this community especially for our Cyber Security scholarship program. I co-chaired the 800 person Women in Cyber Security (WiCyS) conference in 2016. This was followed by numerous outreach keynote and featured talks at various conferences for women. This includes cofounding and cochairing the Women in Data Science and Engineering workshop associated with IEEE ICDE in 2017 and cofounding the Women in Services Computing at the IEEE Services Congress and cochairing it in 2017 and 2018). I was also a distinguished speaker for CRA-W in 2015. I co-founded the Women in Cyber Security Center at UT Dallas in 2016 and co-direct it. And I really enjoyed reviewing the cyber security scholarship applications from female students for CRA-W and ACSAC from annually from 2015-2020 (SWSIS). In addition, I continue to give keynote addresses at events such as Women in Cyber Security Research and Women in Communications Engineering conferences/workshops.

Women in Data Science: One of the high impact events I participated in was at the Women in Data Science (WiDS) conference at Stanford University in 2018 where I gave a featured address, participated in a panel as well as gave a media interview. This event was watched by over 100,000 people around the globe (according to Forbes Magazine). Subsequently I established the Women in Data Science Center at UT Dallas and have an annual Women in Data Science day coinciding with Stanford University's WiDS. I also chaired the WiDS workshop associated with IEEE ICDE (we merged WIDSE with WiDS).

Educating Rural America: Since 2017, I have tried my best to start programs to engage Rural America in Computer Science. I even wrote a white paper and send it those who work for congressman. I chaired a panel at NIST/NICE conference on Engaging Rural America in Cyber Security (2018). I believe that we need a build a consortium (e.g., similar to WiCyS and WiDS) to engage Rural America in Computer Science so that they are able to get high paying jobs. I am planning to do more with respect to the latter initiative as it is critical that we educate all of America and I believe that those from the rural communities have a significant disadvantage with respect to quality education.

Educating a Global Community: I also give talks to the general public in cyber security (e.g., at public libraries) and give keynote addresses in my field around the world (via Zoom). More recently I have given short courses on Trustworthy Machine Learning at the University of Dschang in Cameroon Africa (pro-bono) and also participate in panels at Professors without Borders. While my primary mission is to educate those in the USA, it is also important to educate a global community as I believe that would reduce poverty and in the end reduce violence especially against women and children.

Violence against Women and Children: One particular area I am focusing on and that I feel strongly about is violence again women in children. At every talk I give to women I make it a point to stress that a *High Paying Job is a MUST for Every Woman* so that she does not have to stay with an abusive partner. Children are helpless and far more vulnerable. Since 1999 I have supported various organizations such as Save the Children and UNICEF. My current work in AI also focuses on this aspect and I have given talks on "Can AI be for Good in the Midst of Cyber Attacks and Privacy Violations" and use violence against children as an example application.