

## **Dr. Bhavani Thuraisingham' s Answers to the D CEO (part of D Magazine) Dallas 500 Questions – Named one of the 500 most Influential Business Leaders in North Texas in 2023**

- **What educational degrees do you hold, and where were they earned?**

I was educated mostly in the United Kingdom. I received my master's at the University of Bristol in Mathematical Logic and my PhD from the University of Wales in the UK in Theory of Computation. Subsequently, I received the highly prestigious earned higher doctorate (only awarded in the UK and the Commonwealth) Doctor of Engineering at the University of Bristol, UK for my published research in Secure Data Management.

- **Where were you born?**

I was born in Colombo, Sri-Lanka (South Asia) and am of Tamil origin. I would also like to add that I finished my undergraduate degree at the University of Ceylon (name for Sri-Lanka at that time) in Mathematics and Physics in 1975 when I was 20, married my husband (arranged marriage) soon after while he was finishing his PhD at the University of Cambridge, England, and then moved to England to start my graduate education at the University of Bristol.

1. **What has been your/your company's most significant success over the last 12 months?**

The most significant success for our Cyber Security Institute is the members, especially the junior faculty, getting prestigious awards and thriving in their careers. Another success is our students getting top jobs in companies such as Facebook, Amazon, Google, Apple, Microsoft and IBM, among others. We have also been successful in recruiting female students into our cyber security program due to the teamwork of all the members. We worked on some challenging research problems such as applying Artificial Intelligence for Malware Analysis and handling cyber-attacks on the Artificial Intelligence systems. We have made quite a name for ourselves in this area over the past year. We also transfer the technology to commercial products by having start-ups as, obtaining patents, as well as working with companies. For me personally getting the top honor for a Computer Scientist which is Fellow of the ACM (Association for Computing Machinery) in December 2018 and officially receiving the award in June 2019 in San Francisco has been a highlight of my career. Over the past year I got to teach pro-bono a course on integrating cyber security and machine learning at the University of Dschang in Cameroon, Africa.

2. **Tell us about a time your life took an unexpected turn and how you handled it.**

I was living in Lexington, MA from the late 1980s until the early 2000s. My son went to school in the area and so back in 1997 he applied to colleges. He got into MIT in Cambridge, MA and the University of Cambridge in Cambridge, England. I truly believed that he would choose MIT as he essentially grew up nearby. Much to my surprise and

dismay he chose the University of Cambridge. Both MIT and Cambridge are world-class universities and I was very happy for him. However, I missed him a lot. So, the next four years I buried myself in work at the MITRE Corporation and wrote several books in my field. In the end I felt I needed a change and so in 2001 went to Washington DC on assignment to the National Science Foundation managing research programs. Then in early 2004, UT Dallas wanted me to join the university to found the Cyber Security Institute. I never expected to end up in Texas. Nevertheless, I welcomed the opportunities and said to myself let me try Dallas for a year. Then one year became five to ten to fifteen and now almost eighteen years later I am still here and very happy with Dallas. My husband was commuting between Boston and Dallas until the pandemic and now he has moved to Dallas and my son and his family live in New York City. So, the unexpected turn has ended well for us.

**3. What are some of your favorite destinations/ places to visit?**

I have done extensive travel starting around 1995 until early 2020 (before the COVID-19 crisis) to give keynote addresses and other talks at major conferences around the world. Every place is special. But two cities that I really enjoyed visiting are Auckland, New Zealand and Nice, France. It's hard to explain why – maybe it's because the cities were surrounded by water and had a calming effect on me. But if you ask me the most special destination I would have to say Cape Town, South Africa in December 1999 to attend the conference. I was so inspired visiting Robben Island seeing Nelson Mandela's prison cell. That's when I felt very strongly that I have to do more for women and under-represented groups in Computer Science.

**4. What key leadership strategies do you value the most?**

The three key leadership strategies are (i) having a vision that would benefit the organization, (ii) listen to the people in his/her organization and (iii) build an inclusive organization. Having a vision means the leader must have an understanding as to how the people in the organization can contribute to the vision. While the vision has to focus on the future, it has to be realistic. What can the organization do now to achieve the vision and how can he/she steer the organization into the future? A leader must listen to the people. He/she should be willing to be challenged. More importantly he/she should learn from the mistakes made. Finally, the leader should embrace diversity, equity and inclusion. Because diverse people bring different ideas and while some may be good and some may not be, at least listening to the different ideas will enrich the organization.

**5. As you enter your office, what would you choose to be your walk-up/theme song, and why?**

Two themes/songs really motivate and brighten me especially in the mornings. One is the theme "Man of Mystery" by the Shadows and the other is the song "I will Survive" by Gloria Gaynor. I like the Shadows' theme as whenever I listen to it I want to jump up from my chair and working out. Whenever I listen to the song by Gloria I believe that I can survive anything and start focusing on my work.

**6. What animal best encapsulates your character and/or demeanor?**

I can name multiple animals that best encapsulates my character and/or demeanor. However, if I were to name one, it would be an elephant. I am a leader and I am unfazed by challenges. I also have a very good memory. I usually do not rush my work. I am very deliberate in my approach to work. However, I can be agile when I need to. I am also very flexible. I have grown up with elephants as in certain parts of Sri-Lanka you can see elephants on the streets. I am very fond of them, but I try not to go near them, although they are harmless most of the time.

**7. If you were not in your current profession, what would you be doing and why?**

I excelled in Math and Science as far as I can remember. I did my undergraduate degree in Math and Physics and then got into Computer Science for my graduate work and have loved my work ever since. So, until recently I could not imagine doing anything else. However, last December my husband had a very bad reaction to the COVID Booster and so I had to take care of him for a few days. He said, "you would have made a very good nurse". Then I remember what my father said to my mother before he passed away and I had to take care of him for a few days as my mother attended a relative's wedding. He said, "Bhavani will take care of you in your old age". I now believe I would have made a good nurse and would have liked the profession. I like to take care of people and I simply love being a professor and working with my students. Similarly, I would have loved to take care of my patients. We owe so much to our nurses especially for what they did for us during the pandemic.

**8. If you could change one thing about your industry, what would it be and why?**

I work in Cyber Security and Data Science/Machine Learning. Both fields are male dominated with the percentage of women less than 20%. In some aspects of say cyber security like systems security the percentage is around 10%. Therefore, what I would like to change is to have more participation from women. We need the percentage of women to be around 50%. Computer Science is a highly paying field and intellectually challenging. Therefore, why not women take advantage of the opportunities? Also, having a diverse workforce is critical to advance the field. Diversity means diverse ideas. Women excel in areas like usable security and privacy as well as privacy and fairness in machine learning. What is the point in building systems that cannot be used and the machine learning algorithms showing bias? Therefore, we need women to bring novel ideas into the field to make more breakthrough innovations. That is why I work hard to motivate and recruit more women through our Women in Cyber Security and Women in Data Science Centers.

**9. To whom or where do you go for sound business advice?**

Over the years I have built a strong support system consisting of mentors and trusted colleagues. When I need any advice about business or my career I seek their advice. I also listen to any inputs my students may have when we want to get into a new research area. I also seek advice from my managers as we all want the business/project to succeed. Last but not least often I run my ideas by my husband as he is very good at analyzing the pros

and cons before embarking on any opportunity. Most important, I must believe in what I am doing and what I want to do. Therefore, I also trust my own instincts.

**10. Tell us about the first car you owned/drove?**

We moved to Socorro New Mexico from England back in June 1980. I got my driving license in Socorro and got my first car there. It was a 1977 Plymouth Volare Maroon Station Wagon. While it was not considered a big car at that time, thinking about it now it seems massive. I did not find it difficult at all driving that car, although today I drive a Kia Optima and would find driving a Plymouth Volare quite daunting.

**11. What has you most excited about the future?**

I am most excited about technology especially the developments in Artificial Intelligence and Data Science. This is really changing the world. Imagine if we did not have technology what could have happened with COVID-19? Still, there is so much more work to do such as developing technologies and applying them to find effective vaccines. Also, as we develop more technologies there are many more cyber security challenges. So, I am not only passionate about developing new technologies with AI and Data Science, but also very focused on addressing the cyber security challenges that result due to the technological advances. I have had a very rewarding 42 year career and health permitting would like to work for many more years as there is so much to be done to develop novel technologies. But like I did 42 years ago, I still try to find a balance between my work and being a mother and more recently a grandmother.

**12. Who is the most interesting under-the-radar business leader in DFW (and should we consider them for the 2023 Dallas 500)?**

I am very grateful to those who help children in need and who are abused. These include those working for UNICEF, Save the Children and in DFW area, the Dallas Advocacy for Children. The CEO of this organization is Irish S. Burch. I strongly recommend considering Iris for the 2023 Dallas 500.

**Here is a question I added – What was the lucky break in your career? (if you think it would be interesting to include it)**

After three years as visiting faculty at New Mexico Tech and the University of Minnesota, I started working at Control Data Corporation in 1983 as a senior software developer in Computer Networks. I enjoyed development a lot and was an integral part of the team that developed CDCNET which was one of the early computer networks. After contributing to the first release of the product, I wanted to get into research. But it was no easy as I was limited to the Minneapolis/St. Paul area. Then I got a lucky break. I became a US citizen in Fall 1985, Honeywell had won a contract from the US Air Force to design and develop a highly secure database system, and Honeywell interviewed me and made me an offer. All three events had to occur for me to start my career in Cyber Security and Data Science (what used to be called Computer Security and Data Management in 1985). Since then, I have been very fortunate to have a very rewarding career.