**Research statement**

My research interests are algorithms, distributed systems, computer networks, software system design, and machine learning.

From 2000 to 2005 I studied the technology stack for service oriented distributed systems and discovered that it was lack of a solution to service composition with conversational partners for my Ph.D. at the University of Georgia. I have proposed and implemented a design and analysis framework to address the issue. I have successfully applied and implemented graph algorithms to solve the analysis of the framework, and my originality was rewarded with one publication on ACM Southeast Conference and one on IEEE International Conferences on Web Services.

Besides my doctoral research, I also collaborated with Complex Carbohydrate Research Center (CCRC) in a project where I applied computing analytics to biological data sets to discover biological knowledge about glycans. //any special results being discovered?

After graduation in 2005, I joined AT&T labs, where I extended my research in algorithms on how to solve large computer network issues. I utilized my experience with graph algorithms again in the development of IPTV metro area network planning tool. It has not only automated verification of fiber path diversity, but also shortened the network planning time for a metropolitan from 2 weeks of manual planning to several hours of programed search time. The work was highly awarded with latest break through and patented in 2017. //Any machine learning? What breakthrough, and how important it is? What are benefits?

In 2006, I started to investigate wireline access network and developed a Single End Loop Test tool as a part of IPTV access network performance management platform. The data powered software succeeds in estimation of loop length with <5% error, detection and locating bridged tap or bad splice, or metallic fault such as open/short/water at 90% precision. The software tool has reduced the need to send technicians to the customer’s home to test the loop if ready for IPTV service sale with expensive handheld proprietary equipment, which in term saved ….//brag about the economic and impact to industry here, and state patented in 2010. perhaps revese this paragraph with the last.

Early years of the 2010 decade marks the beginning of the mobile Internet era. Significant increase of Internet traffic and different quality of service requirements have posed new challenges to Internet operators. To overcome these challenges, my research goes back to studying distributed systems. This time I focus on how to build fault tolerant and scalable distributed systems that can handle big volume of log data sets and streams. In addition, I have embarked on exploration of machine learning algorithms and its application to gain insights in network operation.

// How to balance your teaching and how research is going to benefit the university and students?

//What is your future research plan? It’s better match to department’s goal/objectives.

//I think you can remove patends and publications, and certifications, since these are in CV already, and mentioned above.