

A Brief Biography for Dr. S.S.Iyengar

[Professor S. S.Iyengar](#) is the Director of Research at [Junction Networks Company](#) Inc. in New Jersey and he is also on the Board of Directors. He is formerly the Roy Paul Daniels Professor and Chairman of the Computer Science Department at Louisiana State University and currently he is the Ryder Professor and Director of the School of Computing and Information Science in Florida International University.

Dr.Iyengar, a computer scientist of international repute, is a pioneer in the field of distributed sensor networks, computational aspects of robotics, and oceanographic applications. Dr. Iyengar is best known for introducing novel data structures and algorithmic techniques for large scale computations in sensor technologies and image processing applications.

One of Iyengar's landmark contributions with his research group is the development of grid coverage for surveillance and target location in distributed sensor networks, published as part of an article in [IEEE Transaction on Computers](#) in 2002. Iyengar has also explored the role of game theory in sensor networks [3]. Iyengar's fundamental work has been transitioned into unique technologies. All through his three-decade long professional career, Professor Iyengar has devoted and employed [mathematical morphology in a unique way for quantitative understanding of computational processes for many applications](#). His published papers and presentations, notably a paper entitled "[Histogram Based Morphological Edge Detector \(IEEE Transactions on Geoscience and Remote Sensing, 1994\)](#)" along with his students, among others, was a key factor in enabling the fully automated interpretations of satellite images of the [ocean in 1989 for the United States Navy](#)." His contribution was a centerpiece of this pioneering effort to develop image analysis for our science and technology and to the Goals of the [NAVAL RESEARCH LABORATORY](#)" - Dr.Ron Holyer, Senior Scientist at the NRL. More recently, his technology with others to organize and access information on the Web was featured in the World's Best Technology Showcase held May 14-15, 2007 in Arlington, Texas. Another seminal invention "Cognitive Information Management" is being used at Naval Research Laboratory, Washington DC. This technology allows them to [automatically](#) generate distributed simulation of protocols like in DoD environments. In addition, this technology with (his colleagues), have been requested by several companies ([Praeses](#), [Morph2o](#), etc.) to license this technology for use in humanitarian applications like soil and water management in agriculture, automated disaster management, etc.

Further, Iyengar is the founding Editor-In-Chief of the [International Journal of Distributed Sensor Networks](#) and has been an Associate Editor for [IEEE Transaction on Computers](#), [IEEE Transactions on Data and Knowledge Engineering](#), and guest Editor of [IEEE Computer Magazine](#). He has been an editorial member of many [IEEE journals](#) in advisory roles.

Iyengar has been a PI/Co-PI on many [NSF](#), [DARPA](#), and [MURI](#) funded projects and has been an active participant in numerous government sponsored studies. He has chaired many international conferences on Distributed Sensor Networks and has been on many programming committees on sensor networks around the world. Dr. Iyengar has published over 400 research papers in journals and conferences and he has authored, co-authored, or edited 14 texts in the areas of parallel algorithms, sensor networks, wavelets, robotics, and computer modeling of complex biological systems [2]. He has won many Best-Paper Awards sponsored by international

conferences and his research publications are on data structures, robotics, parallel computing, and sensor networks. His research work has been cited over 4500 times and Prof. Iyengar has graduated over 40 Ph.D students and large number of Post-doctoral fellows at various institutions in the world. He has also been awarded honorary Doctorate of Science and Engineering from institutions around the world. He serves on the advisory board of many corporations and universities in the world.

Iyengar is a Member of the [European Academy of Sciences](#), a [Fellow of the Institute of Electrical and Electronics Engineers \(IEEE\)](#), a Fellow of the [Association of Computing Machinery \(ACM\)](#), a Fellow of the [American Association for the Advancement of Science \(AAAS\)](#), and Fellow of the [Society for Design and Process Science \(SDPS\)](#). He has received the Distinguished Alumnus Award of the [Indian Institute of Science](#). In 1998, he was awarded the [IEEE Computer Society's Technical Achievement Award](#) and is an [IEEE Golden Core Member](#). Professor Iyengar is an IEEE Distinguished Visitor, SIAM Distinguished Lecturer, and ACM National Lecturer. In 2006, his paper entitled, A Fast Parallel Thinning Algorithm for the Binary Image Skeletonization, was the most frequently read article in the month of January in the International Journal of High Performance Computing Applications. His innovative work called the [Brooks-Iyengar](#) algorithm along with the Prof. Richard Brooks from Clemson University is applied in industries and some real-world applications. Dr. Iyengar's work has a big impact, contrary to popular belief, in 1988, we discovered "NC algorithms for Recognizing Chordal Graphs and K-trees" [IEEE Trans. on Computers 1988]. This breakthrough result led to the extension of designing fast parallel algorithms by researchers like J.Naor (Stanford), M.Naor (Berkeley), and A.A.Schaffer (AT&T Bell Labs). Professor Iyengar earned his undergraduate and graduate degrees at Bangalore University and the Indian Institute of Science, Bangalore and a doctoral degree from Mississippi State University.

He is currently the Roy Paul Daniels Distinguished Professor and Chairman of the [Department of Computer Science](#) and is the founder and director of the [Robotics Research Laboratory at Louisiana State University](#) [1] [4]. He has been a Visiting Professor or Scientist at [Oak Ridge National Laboratory](#), [Jet Propulsion Laboratory](#), Naval Research Laboratory, and has been awarded the Satish Dhawan Visiting Chaired Professorship at the [Indian Institute of Science](#), the Homi Bhabha Visiting Chaired Professor ([IGCAR](#)), and a professorship at the University of Paris - Sorbonne.

References

- [1] (<http://www.csc.lsu.edu/~iyengar/index.html>)
- [2] For a complete list of books by Iyengar, please visit- <http://www.csc.lsu.edu/~iyengar/books.html>
- [3] <http://ieeexplore.ieee.org/Xplore/login.jsp?url=http%3A%2F%2Fieeexplore.ieee.org%2Fiel5%2F49%2F29265%2F01321226.pdf%3Farnumber%3D1321226&authDecision=-203>
- [4] <http://csc.lsu.edu/intelligent.html>