
Gunasekaran Seetharaman, Ph.D., FIEEE



ST for Advanced Computing Concepts, and Chief Scientist for Computation Center for Computational Science Naval Research Laboratory

Dr. Seetharaman was appointed as Senior Scientist (ST) for Advanced Computing Concepts, and Chief Scientist for Computation, in June 2015. He joined the NRL Center for Computational Science after a successful tenure (2008-2015) as a Principal Engineer of Computing Architectures and Video Exploitation at the Information Directorate of Air Force Research Laboratory, Rome, NY. He was elevated to the rank of Fellow of IEEE, in 2015, for his contributions to high performance computer vision algorithms for airborne applications.

As the Chief Scientist of Center for Computational Science, he leads high impact research on high performance computing, novel architectures, high throughput low-latency networked computing, video analytics, autonomy and C4ISR areas.

He held research active academic tenured positions at: the Department of Electrical and Computer Engineering, Air Force Institute of Technology, Wright Patterson Air Force Base, Dayton, OH (2003-2008), and at the Center for Advanced Computer Studies, (1988-2003), University of Louisiana at Lafayette, LA. He earned his Ph.D., in Electrical and Computer Engineering, from the University of Miami, FL, in 1988; M.Tech. degree in Electrical Engineering from The Indian Institute of Technology, Madras, in 1982; and, his B.Eng., degree in Electronics and Communication Engineering from the University of Madras, in 1980.

His recent works have focused on high performance computing for video exploitation: computer vision, machine learning, content-based image retrieval, persistent surveillance and computational science and engineering. He was a member of the AFIT based core team for demonstrating and transitioning a wide area persistent imaging and surveillance system known as Angel Fire. At AFRL, he led a program C4ISR Enterprise to the Edge (CETE) aimed at pushing processing closer to sensors, and successfully demonstrated high performance computational algorithms for airborne video analysis: for 3D mapping, tracking and exploitation. He also started a new program named content and context aware trusted routers (C2TR) as a robust mechanism for agile high performance computing across

large networks. His team won the best algorithm award in the IEEE CVPR 2014 Video Change Detection Challenge. They won the best paper award at the IEEE Workshop on Automatic Traffic Surveillance, IEEE CVPR-2016. His team is among the top for high-performance video trackers in the IEEE ICCV 2015 competition. He co-founded Team Cajunbot – a participant in DARPA Grand Challenge – featuring two unmanned vehicles. He led the LiDAR data processing and obstacle detection efforts in Team Cajun Bot, demonstrated in 2005 and 2007 DARPA Grand Challenges.

He has published more than 180 peer-reviewed articles in: Computer Vision, low-altitude aerial imagery, Parallel Computing, packet routing, VLSI-signal processing, 3D Displays, Nano-Technology, micro-optics, and 3D Video analysis. He guest edited IEEE COMPUTER special issue devoted to Unmanned Intelligent Autonomous Vehicles, Dec 2006. He also guest-edited a special issue of the EURASIP Journal on Embedded Computing in the topics of Intelligent Vehicles. He is an associate editor of the ACM Computing Surveys. He has served as the General Chair of IEEE Workshop on Computer Architecture for Machine Perception 2003, and co-chaired the technical program committee of IEEE AIPR2014.

He is a member of the academic honor societies: Tau Beta Pi, Eta Kappa Nu, Upsilon Pi Epsilon and Phi Beta Delta. He served as the elected chairman of IEEE Mohawk Valley Section, Region 1. He is also a Paul Harris Fellow of the Rotary International.