



Dr. Dukhyun Kim
Chief Scientist
AiRANACULUS

Dr. Dukhyun Kim brings more than 20 years of experience in the field of wireless communication signal processing, ranging from algorithm development to prototyping and commercialization activities. Dr. Kim received his Ph.D. in Electrical Engineering from Georgia Institute of Technology in December 1998 and B.S. in Electrical Engineering from Rutgers University in May 1993 with Highest Honors.

As an expert on modulation and demodulation technologies, Dr. Kim researched and developed innovative signal processing algorithms to improve performance of wireless modems that otherwise resulted in suboptimum performance. His works on digital signal processing (DSP) algorithms include channel coding (FEC), parameter estimation, synchronization, compensation of impairments due to imperfections of RF/analog circuits and much more.

Dr. Kim started his career in the field of wireless LAN (WLAN) / WI-FI as one of the first people who worked on development and prototyping of the IEEE 802.11 PHY/MAC protocol-based communication systems. He was a voting member of the IEEE 802.11 working group and participated in standardization meetings and activities involving the IEEE 802.11 a/g/n specifications. He was involved in developing one of the first FPGA based hardware platform to implement the wireless modem based on orthogonal frequency division multiplexing (OFDM). Dr. Kim also worked on wireless personal area network (WPAN) technologies where he participated in the IEEE 802.15.4g wireless smart utility network (Wi-SUN) standardization activities. He was a technical team lead for developing wireless SUN modem algorithms and simulation platform that resulted in the Wi-SUN link level simulator.

Dr. Kim was also involved in the development of JTRS combat search and rescue (CSAR) GEO satellite-based two-way direct sequence spread spectrum (DSSS) data communication radio prototype for the US government where he managed subcontractors as a system integrator role to ensure compliance with the required goals of the project.

Finally, Dr. Kim is a member of Eta Kappa Nu honor society. He is also a registered USPTO patent agent. His research work has been published in a book chapter as well as in patents, conference and journal publications, with over a thousand citations.