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Faculty Research Colloquium



Prof. Junaid Ahmed Zubairi

Computer Science and Engineering Department
School of Engineering

“Flight Data Tracker for Global Aviation”

Wednesday, April 22, 2015 at 3:30 PM
Conference Room - Building D

Abstract

When a plane crash occurs, teams are dispatched at a considerable cost to find the black box to recover and analyze flight data. In this presentation, I will share the details of my flight data tracker project which can potentially be used to track global civil aviation flights. There is a great need for tracking flight data in real-time. There are obvious advantages in finding the data instantly after a plane crash instead of waiting for several days until the black box is found. The recent tragedy of MH370, the Malaysian airline flight, has exposed this problem of non-tracking of flights in the global aviation. Earlier, this idea has been highlighted in the literature but no software scheme has been presented for its implementation. The flight tracker project includes a distributed handshaking and data transmission protocol and header formats for communication between plane and ground servers. A set of algorithms is developed to packetize the flight data, transmit it to the ground to an array of servers and integrate the transmitted data to recover the flight information. I have filed for US patent for this project in January 2014.

About the Speaker

Dr. Junaid Ahmed Zubairi has a well-established academic career and proven record of research and scholarly pursuit. He received his BE (EE) from NED University of Engineering, Pakistan and MS and Ph.D. (Computer Engineering) from Syracuse University, USA. He worked in Space Research Commission before joining Aligarh Institute of Technology Pakistan as Head of Computer Science Department. Later he was appointed as In-charge of Computer Engineering and Associate Professor in Sir Syed University of Engineering and Technology where he designed the curriculum of BE (CE) program and designed and established the computer network of SSUET. He worked briefly in Intl' Islamic University Malaysia before accepting a position in Computer Science in State University of New York at Fredonia in 1999. Dr. Zubairi is currently on leave from Fredonia and working as a Professor of Computer Engineering in AURAK. Besides academic duties, Dr. Zubairi has been a senator, assessment chair, ABET coordinator and member of SUNY Faculty Senate. Dr. Zubairi is a recipient of several grants and awards including Malaysian Government IRPA research award (\$62k), NSF MACS grant (\$400k) and multiple SUNY scholarly incentive awards. His research interests include network traffic engineering, network protocols and applications of networks. He has edited two books on network applications and security and have over 54 peer reviewed publications including book chapters, journal articles and papers in conference proceedings. He has invented the flight tracker (patent pending) system to supplement the black box FDR and developed IDFA and TELIC tools for VLSI fault testing and network Traffic Engineering.