

Hassan B. Diab



Research/ academic activities

Hassan B. Diab is a Professor of Electrical and Computer Engineering at the Faculty of Engineering and Architecture, American University of Beirut (AUB), Lebanon. He has been seconded by AUB to serve as Dean of the School of Engineering and Acting President of Dhofar University, Oman during 2004-2005. He has over 110 publications in internationally refereed journals and conferences. His research interests include cryptography on high performance computer systems, modeling and simulation of parallel processing systems, embedded systems, reconfigurable computing, simulation of parallel applications, system simulation using fuzzy logic control, and the application of simulation for engineering education. He has supervised/co-supervised 76 Masters Theses and senior undergraduate projects. He has also led close to 30 research projects sponsored through local and international grants. He is a Founding Member of the first Arab Computer Society established in 2001 as well as the Founding Member of the IEEE Student Branch at AUB in 1997. Professor Diab is a *Fellow* in the IEE and the IEAust, as well as a *Senior Member* of the IEEE.

Application of Fuzzy Logic to Performance Evaluation in Parallel Processing Systems

Performance is one of the key factors that need to be taken into account in the design, development, configuration, and tuning of a computer system. Hence, the quantitative evaluation of computer performance (CP) is needed during the entire life cycle of a computer system. The methods that have been used can be divided into three main areas, namely performance measurement, analytic performance modeling, and simulation performance modeling. These methods have been applied across the entire spectrum of computer systems. This research work proposes the introduction of fuzzy logic methodology as an alternative simulation performance modeling technique. This methodology has been successfully used in specific CP application areas including performance evaluation of cache memory and of the arbiters used for multiple-bus multiprocessor systems.