

Table of Contents

Optimization of Sparse Matrix Arithmetic Operations and Performance Improvement using FPGA <i>Dinesh Kumar Murthy and Semih Aslan</i>	1
Optimized Architecture for Sparse LU Decomposition on Matrices with Random Sparsity Patterns <i>Dinesh Kumar Murthy and Semih Aslan</i>	6
IoT Applications with Common Distributed Architecture for Data Acquisition <i>Kushal Thapa, Vinay Lokesh, and Kevin Seets</i>	11
Supervised Machine Learning in Digital Power Line Communications <i>Kushal Thapa, Stan McClellan, and Damian Valles</i>	16
Remote Filesystem Event Notification and Processing for Distributed Systems <i>Vinay Lokesh, Kushal Thapa, and Stan McClellan</i>	22
An Evaluation of Neural Network Performance Using Complex-Valued Input Data <i>Kushal Thapa and Stan McClellan</i>	27
A non-Linear MIMO-OFDM Preprocessor for non-Gaussian Channels <i>Danilo Pena, Thais Areias, Luan Pena, and Juliano Bazzo</i>	32
Wireless Frequency Data Manipulation for Embedded Databases Used in Cybersecurity Applications <i>Page Heller</i>	36