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   Sommario/riassunto This book reflects on the foundations and real-world situations for the
                      special case of resource-aware communication systems. The surge in
                      sensors and communication devices has brought in an explosion of
                      data, necessitating a greater demand for computational resources for
                      processing tasks, posing serious challenges to the optimal sharing of
                      available resources among users, rendering the resource-sharing
                      proposition even intractable at times. By introducing a generic
                      relational framework, the contributory chapters treat the resource-
                      sharing problem as an optimization problem with reference to the
                      optimal utilization of the underlying resources to attain user
                      satisfaction and fairness among users in resource access. Case studies
                      highlighting specific resource-aware intelligent communication
                      systems are also presented for the completeness of the treatment. The
                      intended audience includes communication technologists and
                      computational scientists. .