Algorithms that Shaped the World

Algorithms are the hearts of computing systems. They are usually not visible to the user, but they keep the systems going and provide functionality and speed. Without algorithms there would be no systems. Not surprisingly, every computer scientist is taught algorithms. The design and analysis of algorithms is a subject of intellectual depth and beauty with wide-ranging impact on the real world.

dynamic
Distributed Hash Tables
The boosting algorithm in machine learning (due to Schapire)

Weighted Fair Queueing Balanced Trees
Metropolis Algorithm Matching algorithms
Ford-Fulkerson Max-Flow, Edmonds-Karp

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Gaussian
                                                            Elimination
                                                       Balanced Trees
                                                      Sorting, Quicksort
                    quantum
                                            FFT LLL Page rank
Dynamic Programming
                    computing
       Linear Programming
      Interior Point, Simplex online matching Dijkstra
      Cole Vishkin algorithm (mostly theoretically) Heaps Signal Processing
  Simulated Annealing online algorithms Balanced Trees Edmonds-Karp
                             Counting algorithm with Hyperloglog
 algorithm with Hyperloglo longest common subsequence Online
  Shor's factoring algorithm Programming Gaussian Elimination
ranking Randomized Incremental Construction in machine learning
Brozozowski DFA minimisation algorithm Distributed Hash Tables
belief propagation Lamport Clocks (again not sure if it counts) Matching algorithms
All APSP allgorithms The Berlekamp-Welch error correction
                         algorithm, error correction rsa approximate TSP
quantum computing genetic algorithms Lovasz lattice fides for Matching algorithms Signal Processing and Communication: Christo
      bipartite FFT and Viterbi (special case of dynamic
                              programming)
      general
                                codes
 deep learning
   trees
    Greedy
     rsa
                     fides for
                    approximate TSP
     Christo
                        codes
      Gaussian
      Elimination
        ant colony
         systems
                         Lempel-Ziv
        genetic algorithms
        matrix multiplication
        Distributed Hash Tables
         codes algorithms, e.g.
        Euclidean Algorithm
        Gale-Shapley
        Error-Correcting Codes
           Approximation
            Merkle
              Trees
                           algorithm
               in Reed-Solomon
                   Paxos
                      Dynamic
                        Programming
                             fides for
                           approximate TSP
                           COCES Lovasz
                           Depth-First-Search
                             Balanced Trees
                               Sorting, Quicksort
                                Page rank
                               Hashing
                              Dijkstra
                            Heaps
                           FFT
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Ford Fulkerson Max-Flow