Algorithms in the Real World

Topics

1. Compression
2. Cryptography
3. Linear and Integer Programming
4. Triangulation
5. N-body Problem
6. VLSI Physical Design
7. Pattern Matching in Computational Biology
8. Indexing and Searching
9. Clustering

Background

1. Transforms (FFT, Wavelets, Expansions)
2. Number Theory
3. Matrices (Linear systems, Null spaces, SVD)
4. Geometry (basic properties and primitives)
5. Information Theory
6. Graphs
7. Sorting and Sets
8. Approximation Methods