

CSC365 Topics

Here are links for course topics. For many, you can try examples at the animation and visualization site: [Data Structure Visualization](#).

1. Interfaces and Implementations: [csc365-ifc](#)
2. BitSets: [csc365-bits](#)
3. Hash tables: [csc365-hash](#)
4. Search trees: [csc365-tree](#)
5. Tries and digital trees: [Trie - Wikipedia](#)
6. Secondary storage: [csc365-storage](#)
7. B-tree and hash based persistent data stores
 - [B-tree - Wikipedia](#)
 - [Extendible hashing - Wikipedia](#)
8. Graph terminology, properties, representations: [csc365-graphs](#)
9. Graph traversal; paths: [csc365-traversal](#)
10. Graph connectivity: [csc365-connect](#), network flow: [csc365-flow](#)
11. Weighted graphs: priority queues, MSTs, paths: [csc365-weighted](#)
12. Exponential algorithms and NP completeness: [csc365-np](#)
13. Recursive algorithm design; divide and conquer: [csc365-recurse](#)
14. Dynamic programming; all-pairs paths: [csc365-dynamic](#)
15. Incremental and greedy algorithm design: [csc365-incr](#);
16. Randomization techniques in algorithm design: [csc365-random](#)
17. Compression algorithms: [csc365-compress](#)
18. Resource management algorithms: [csc365-resource](#)
19. String Matching
 - [EXACT STRING MATCHING ALGORITHMS Animation in Java](#)
 - [String-searching algorithm - Wikipedia](#)
 - [Suffix tree - Wikipedia](#), [Pattern Searching using Suffix Tree - GeeksforGeeks](#)
20. Survey of algorithmic domains: Parsing ([Category:Parsing algorithms - Wikipedia](#)), Linear Algebra ([Numerical linear algebra - Wikipedia](#)), Graphics ([Category:Computer graphics algorithms - Wikipedia](#)), Signal processing ([Digital signal processing - Wikipedia](#)), Neural nets ([Neural network \(machine learning\) - Wikipedia](#))

For project-related background:

- Similarity [csc365-similarity](#)
- Word2Vec [Word2vec - Wikipedia](#)
- Clustering: [csc365-clusters](#)
- Drawing graphs [Graph drawing - Wikipedia](#)

