First Step to *CODE YOUR WAY TO THE OFFER*

The Team


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GRAPHIC DESIGNER

Experience

Co-Founder & CEO
AlgoExpert
Feb 2017 - Present · 6 yrs 3 mos
Remote

Building the best technical-interview-prep and learn-to-code platforms for Software Engineers (www.algoexpert.io and www.programmingexpert.io)....

Software Engineer
Facebook
Sep 2019 - Nov 2019 · 3 mos
New York City Metropolitan Area

Developed internal tools for Data Scientists, Data Engineers, and Machine Learning Engineers.

Software Engineer
Google
May 2017 - Jul 2019 · 2 yrs 3 mos
New York City Metropolitan Area

Developed Google Cloud Platform UIs and managed 3 Software Engineering interns and an Engineering Resident.

Where and How to start?

How many data structures ?

- Arrays
- String
- Tree
- Trie
- Graph
- Disjoint Set
- Stack
- Queue
- Linked List

- Binary Indexed Tree
- Segment Tree
- Sparse Table
- AVL and Red Black Tree
- B Tree
- Fenwick Tree
- K-arr Tree
- Heaps

How Many Algorithmic Technique ?

- Bit Magic
- Searching
- Modular arithmetic
- Dynamic Programming
- Sorting & Searching
- Greedy
- Binary Search
- Backtracking
- Recursion
- Divide and Conquer
- Number Theory
- Geometry

- After conducting extensive research and dedicating over 10,000 hours to problem-solving, the team at DALCSL is proud to present our comprehensive road map. This road map has been carefully crafted through the scrapping of data from numerous websites and watching dozens of videos. We believe that this road map will provide a clear and effective strategy for achieving our goals.

Only Data Structures you need to know!

Data Structures according to priority

- Array
- String
- Stack
- Queue (Including Priority Queue)
- Tree
- Graph (Including matrix)
- Linked List

Order of learning

- Array & String
- Stack and Queues
- Linked List
- Tree
- Graph

Golden Tip: *HashMap and Sets will be your life saviours in problem solving.*

Only Algorithmic Technique you need to know!

Algorithmic Technique according to priority

- Dynamic Programming
- Sorting & Searching
- Greedy
- Binary Search
- Backtracking
- Recursion
- Divide and Conquer

Order of learning

- Recursion
- Binary Search
- Divide and Conquer
- sorting & Searching
- Greedy
- Backtracking
- Dynamic Programming

Coding Patterns!

- Depth First Search (Tree, Graph)
- Breadth First Search (Tree Graph)
- Two Pointers (Arrays, Strings)
- Sliding Window (Arrays, Strings, Hash Tables)

Now we know what to solve but what about how to solve ?

This is how I see the problem solving:

The “PDS” system :

- Pattern (master common patterns)
- Diversity(See different kind of problems)
- Speedrun (Not solving every problem but solving what’s essential)

Using PDS, we work with the magic of neuroplasticity, specifically muscle memory. Through repetition, we create a powerful phenomenon that can transform your abilities. The key is to stick with it, even when it's tough. With perseverance, you too can experience the magic of muscle memory and achieve your goals.

You can *dream* but don't neglect the *execution*

Now to ease your execution I am coming up with 4 steps. The ultimatum which is all you need to stay in the game !

1. Mastering the tool Before mastering the skill (Here tool is programming language) & Master Big Oh Notation.
2. Master the data structures before jumping in to solving problems: (Data structures operations + data structure traversal).
3. From above you know what to do, now how to do is this:

   It does not go like easy → medium → hard.

   a. First Select specific Algorithmic technique or data structure that you want to master and then solve as much easy problem as you need to get confident.
   b. Once you are done with easy then it goes like 4/1 rule : 4 medium problem and 1 hard problem.
4. move to next topic while keep revisiting to already solved ones.
5. Never Stop Learning

Courses on coursera:

- https://www.coursera.org/learn/algorithms-part1 (From the best of the best : Robert Sedgewick!)
- https://www.coursera.org/learn/algorithms-part2

Links to get your hands on Languages.

Get your hands on C++:

https://www.youtube.com/watch?v=LyGlTmaWEPs&list=PLk6CEY9XxSIA-xo3HRYC3M0Aitzdut7AA

Get your hands on JavaScript:

https://www.youtube.com/watch?v=t2CEgPsws3U&t=0s

Get your hands on JAVA:

https://www.youtube.com/watch?v=jc1t0KFsOcs&list=PLsyeobzWxl7oRKwDi7wjrANsbhTX0IK0J

Get your hands on Python:

https://www.youtube.com/watch?v=_t2GVaQasRY&list=PLeo1K3hjS3uu_n_a__MI_KktGTLYopZ12

Understanding Data Structure (Best Playlist on the Internet!)

https://www.youtube.com/watch?v=92S4zgXN17o&list=PL2_aWCzGMAwI3W_JlcBbtYTwiQSsOTa6P

Links of youtube channel for DSA:

- https://www.youtube.com/@takeUforward
- https://www.youtube.com/@NeetCode
- https://www.youtube.com/@MichaelSambol