Special Workshops
Technical Interviews

Part I

Yongwhan Lim
Friday, April 14, 2023

Yongwhan Lim

Education

Part-time Jobs

Full-time Job

Workshops

Stanford ENGINEERING | Stanford Computer Forum

Coach/Judge

icpc International Collegiate Programming Contest

icpc.foundation
advancing the art and sport
of competitive programming

https://www.yongwhan.io

Yongwhan Lim

- Currently:
  - **CEO** (Co-Founder) in a Stealth Startup;
  - **Owner** of Christian and Grace Consulting;
  - ICPC **Internship Manager**;
  - ICPC **North America Leadership** Team;
  - Columbia ICPC **Head Coach**;
  - ICPC **Judge** for NAQ and Regionals;
  - **Lecturer** at MIT;
  - **Adjunct** (Associate in CS) at Columbia;

https://www.yongwhan.io

Overview

- **Part I: Interview Preparation**
  - Interview Types
  - Technical Interview
  - Interview Topics
  - Interview Preparation Resources
- **Part II: Competitive Programming**
  - CodeForces
  - ICPC

Part I: Interview Preparation

Interview Types

- Technical Interview
  - Tests technical skill-sets required for a job.
- Behavioral Interview
  - Tests soft skills (e.g., effective communication, conflict resolution, etc)

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- Recruiter Call
- 0-1 Online Coding Challenge
  - automated screening with 2-3 questions.
- 2-3 Technical Phone Screens
  - first technical conversation with human.
- 4-7 Interviews in Onsite
  - similar to phone screening but more in-depth; you may get probed on your claimed expertise.
- 0-5 Fit Calls & Negotiation

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Interview Topics

- **Fundamentals**
  - Arrays and Linked Lists
  - Binary Trees
  - Heaps
  - Sorting

Interview Topics

- **Important**
  - Stacks and Queues
  - Hash Tables
  - Binary Search Trees
  - Searching
  - Recursion

Interview Topics

- **Real Differentiators**
  - **Strings**: Knuth Morris Pratt (KMP); Rabin Karp / String Hashing; Suffix Array; Suffix Automaton;
  - **Dynamic Programming**: 1D; 2D; Interval; Tree;
  - **Greedy Algorithms** and Invariants: Matroid;
  - **Graphs**: Shortest Path; Flow / Matching; Minimum Spanning Tree;
    - SP: Floyd-Warshall; Dijkstra; BFS/DFS; Bellman-Ford
    - Flow: Dinic / Edmond-Karp + Ford-Fulkerson; MCMF;
    - MST: Kruskal (Disjoint-Set Union); Prim;

Interview Preparation Resources

- **Popular Websites**
  - LeetCode: Solve all four weekly/biweekly problems in **20 minutes**!
    - 1+2+4+8 (+5 buffer)
  - CodeForces: Get to 2200+ rating
    - Clear 5 questions out of 6 **fast**!
  - AtCoder; TopCoder; CodeChef;

- **Annual Contests**
  - Meta Hacker Cup; ~~Google Code Jam; TopCoder Open;~~

Interview Preparation Resources

- **Elements of Programming Interview**
- **Competitive Programming 4**

Part II: Competitive Programming

CodeForces

- Get to **2200+** rating as fast as you can!

- Join the training sessions through **ICPC CodeForces Zealots** (**https://discord.gg/7bvMnMyF6G**).

International Collegiate Programming Contest (ICPC)

- If you would like to get involved in helping out as a volunteer or an official (unpaid) intern, please reach out to me at **yongwoods@icpc.global**.

1:1 Meeting Opportunity

- If you would like to meet in 1:1, please sign up using: **https://calendly.com/yongwhan/one-on-one**.

- **I'd love to help you landing your dream job!**

Sneak Peek into Part II…

- We will briefly touch on how to do well in:
  - **Behavioral** Interviews;
  - **System Design** Interviews;
  - **Machine Learning**/**Data Science** Interviews;

- We will have few **typical example questions** that you can expect on each of these interview types!

Contact Information

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- **LinkedIn Profile**: https://www.linkedin.com/in/yongwhan/
  - Feel free to send me a connection request!
  - Always happy to make connections with promising students!

THANK YOU