
2 Day Special Workshops

Technical Interviews

Day I

— Yongwhan Lim —
3pm CT, Saturday, April 8, 2023

Yongwhan Lim



Education



Part-time Jobs



Full-time Job



Workshops



Coach/Judge



<https://www.yongwhan.io>

Yongwhan Lim



- Currently:
 - **CEO** (Co-Founder) in a Stealth Mode Startup;
 - **Co-Founder** in 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;



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Overview

- **Part I: Interview Preparation (Algorithms and Data Structures)**
 - Interview Types
 - Technical Interview
 - Interview Topics
 - Interview Preparation Resources
- **Part II: Behavioral Interview**
- **Part III: 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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Technical Interview

- 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;

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: Behavioral

Behavioral Interview (for everyone)

- Becoming an industry standard to have at least one session in typical software engineering interview loop.
- Wants to assess leadership potential.
- Tests soft skills (e.g., effective communication, conflict resolution, etc.)
- Open-ended: **not** about getting it right or wrong!

Example Question #1

- Tell me about a time when you led a team to successfully complete a project.

Example Question #1: Sample Answer

- Best if you led a hackathon/passion project.
 - Otherwise, if you led a project as an intern, highlight it.
-
- Be **concise**!
 - Include hard **metrics** in terms of %, \$, etc.
 - Provide **concrete** examples.

Example Question #2

- How do you set up priorities for the work you are facing each day?

Example Question #2: Sample Answer

- Priority queue idea:
 - Most essential responsibilities first!
 - Respond to emergencies as needed.
 - Non-essential tasks can be delayed.

Example Question #3

- What experiences do you have relevant to this job?

Example Question #3: Sample Answer

- Highlight a technical project you have done that lasted **at least** one year.
- Discussing technologies is a **must**!
 - **Programming languages:** C++ vs Java vs Python vs Go vs ?
 - **Databases:** SQL vs NoSQL vs ?
 - **Algorithms and Data Structures**
 - **Development tools:** Emacs vs Vim vs Visual Studio vs JetBrains vs ?

Resources

- There are number of preparation books.
- For example:
 - *Behavioral Interview Questions and Answers* by Horatio Bird;
 - *Leadership Interview Questions You'll Likely Be Asked* by Vibrant Publishers;

Part III: 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 tomorrow...

- 9am - 12pm: **Dynamic Programming Part I and Part II**
- 12pm - 1pm: **Lunch**
- 1pm - 5pm: **Practice Contest**
- 5pm: **Debrief**

Contact Information

- Email: yongwhan@yongwhan.io
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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

