Stanford Alumni Association

Technical Interviewing

for Entry Level Software Engineering Roles

Yongwhan Lim
Wednesday, February 22, 2023

Yongwhan Lim

Education
Stanford University | MIT

Part-time Jobs
Cornell Tech | MIT EECS | Columbia University

Full-time Job
Google Research | 2σ TWO SIGMA

Workshops
Stanford ENGINEERING | Stanford Computer Forum
Carnegie Mellon University | Harvard | UNIVERSITY OF CALIFORNIA
KAIST | NUS National University of Singapore

Coach/Judge
icpc International Collegiate Programming Contest
icpc.foundation
advancing the art and sport of competitive programming

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)

Interview Types

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

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

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

Interview Topics

- Data Structures and Algorithms
- (> entry level) System Design Problems

Interview Topics

- **Data Structures and Algorithms**
- (> entry level) System Design Problems

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**!
  - CodeForces: Get to 2200+ rating
  - AtCoder; TopCoder; CodeChef;

- **Annual Contests**
  - Google Code Jam; Meta Hacker Cup; 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, 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!**

Contact Information

- **Email**: yongwhan@yongwhan.io

- **Personal Website**: https://www.yongwhan.io/

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