Machine Learning

Initial Interview Guide



What You'll Find in This Guide

Interview Process Overview

What We Look For

How To Prepare

How To Approach Coding

What To Practice

Final Tips and Post Interview

Appendix/Resources

Welcome to your preparation guide for your Machine Learning (ML) initial interview at Meta! Use the sidebar to quickly jump to the section you are looking for. Our ML engineering leaders and recruiters put together this guide, so you know what to expect and how to prepare. We recognize that interviewing can be stressful, so we hope this guide provides the information and resources you need. Remember, your recruiter is there to support you, so please reach out to them with any questions.

Accommodations Process

Meta is committed to providing reasonable support (called accommodations) in our recruiting processes for qualified candidates with disabilities, physical conditions, mental health conditions, neurodivergence, sincerely held religious beliefs, pregnancy, childbirth, or related medical conditions, as required by law. If you need assistance or require an accommodation, reach out via the <u>Accommodations</u> request form.

Interview Process Overview

The initial tech screen is a 45-minute conversation with an engineer and is designed to assess your technical skills. The screen will include 3 parts:

Introductions (5 minutes)

We want to know more about you and how your experiences and interests align with our mission! Prepare a concise, interesting description of who you are, where you've trained and worked, and what your areas of expertise are.

Coding (35 minutes)

You'll solve two coding problems focused on CS fundamentals like algorithms, data structures, recursions, and binary trees. If your tech screen is by phone, the engineer will send you a collaborative editor (such as coderpad.io). If your tech screen is in person, you'll use a whiteboard.

Answering Your Questions (5 minutes)

Take this brief opportunity to learn more about working at Meta from an engineer's point of view. Think about what you find interesting and challenging about the work you'd be doing here or what challenges you're most interested in solving.

Video Conference interview best practices

- Most important: if you'll be coding remotely on <u>Coderpad.io</u>, make sure you've practiced using it to code!
- Make sure you're in a quiet environment.
- Double check that you have a reliable internet/phone connection.
- It's okay to ask the person you're speaking with to speak slowly if you can't catch what they're saying.
- You'll need a laptop with a webcam, speaker, and mic. We recommend using a headset or headphones with a mic for better quality audio, but this is optional.

Interview Dress Code

As you're probably aware, we promote a casual environment at Meta so that everyone can be their authentic selves. Formal dress is not required (jeans are ok)! Dress comfortably. We care about what you can do, not what you wear.

What We Look For

Your interviewer will be thinking about how your skills and experience might help their teams. Help them understand the value you could bring by focusing on these traits and abilities.

- **Communication.** Are you asking for requirements and clarity when necessary, or are you just diving into the code? Your initial tech screen should be a conversation, so don't forget to ask questions.
- **Problem solving.** We're evaluating how you comprehend and explain complex ideas. Are you providing the reasoning behind a particular solution?



Developing and comparing multiple solutions? Using appropriate data structures? Speaking about space and time complexity? Optimizing your solution?

- **Coding.** Can you convert solutions to executable code? Is the code organized and does it capture the right logical structure?
- **Verification.** Are you considering a reasonable number of test cases or coming up with a good argument for why your code is correct? If your solution has bugs, are you able to walk through your own logic to find them and explain what the code is doing?

How to Prepare

Interviewers can only assess your skills and abilities based on what you show them during your interview, so it's important to plan and prepare to best showcase your strengths. In addition to the preparation guidance below, this video will give you an example of what to expect during your technical screen.

1. Before you practice, plan!

Be honest with yourself—only you know how much prep time you'll need. Make the most of your prep time by following these steps to plan your approach before you start practicing.

- Schedule time to study and practice. Block out time every day to write code. Target medium and hard problems.
- Prioritize breadth over depth. It's much better to practice solving fewer
 example problems of many problem types than to become very familiar
 with one type at the expense of the others.
- Set aside time to review what you've practiced. As you solve problems, make cheat sheets or flash cards to review later. Revision and repetition will strengthen your understanding of core concepts.
- Remember your goal. Aim for confidently solving two questions—while thinking aloud—in about 35 minutes.

2. Use key practice strategies to practice effectively

Reading through sample questions, recognizing concepts, and having a vague understanding of these concepts won't be enough to help you shine. You need to



practice! Make sure you're setting your practice sessions up for success by following these tips from engineers who've been through the process.

- Practice coding the way you'll code during your tech screen. Use
 <u>CoderPad.io</u> if your interview is via phone or video call, or use a whiteboard or pen and paper if your interview will be in person. Check with your recruiter if you're not sure which format you'll use.
- Set a time constraint when you practice problems. In your tech screen, you'll be asked to solve one or two problems in under 35 minutes. Practice coding solutions to medium and hard problems in less than 15 minutes each to help you be ready for the constraints during the interview. There are resources available in the Preparation Hub within your Career Profile such as coding puzzles and practice interviews.
- **Code in your strongest language.** Provide the most efficient solution and find and fix the bugs yourself.
- Practice talking through the problem space and possible solutions before you dive in and talk through your decisions out loud as you code.
 Interviewers will be evaluating your thought process as well as your coding abilities. Explaining your decisions as you code is crucial to helping them understand your choices. The more you practice this, the more natural it will feel during the interview.

3. Understand the types of problems you may encounter

Practice a variety of different problems—and understand why we ask them—so you're prepared to solve them during your interview.

- Don't be surprised if the questions sound contrived. Problems may be different than what you're probably tackling in a day-to-day job. We won't ask a "puzzle" question, but questions may be different than real-world questions because they need to be described and solved in 10-20 minutes.
- Problems may assess the depth of your knowledge and your versatility.
 For example, your interviewer might ask you to solve a problem any way you want. Then, they could add constraints on the running or space characteristics and ask you to solve it again.
- **Problems may focus on edge cases.** You might be asked to parse some data format or mini language. Your answers demonstrate your ability to handle multiple states in your head.



Problems may test how well you know how things work under the hood.
 For example, you might be asked to implement well-known library functions.

4. Decide what resources you'll use to prepare

It's easy to be overwhelmed by the number of online resources or the detail in an entire theoretical algorithms book. Here are some sites that our engineers found helpful when preparing for their coding interviews.

Top sites for practice problems from Meta:

- Meta Sample Interview Problems and Solutions
- InterviewBit

Other websites:

- <u>LeetCode</u>
- HackerRank

Video prep guides for tech interviews:

- Cracking the Meta Coding Interview: The Approach
- Cracking the Meta Coding Interview: Problem Walk-through

The password for the two videos above is "FB_IPS". Portions of the videos that cover soft skills tips may be more relevant for preparing for your onsite interview than for preparing for your initial tech screen.

Example tech screen study list:

 See page 8 for an example list of exercises from Meta's engineering team you can use as a starting point to help you prepare. Feel free to tailor it to your specific practice needs.

*It's not necessary to review these resources when preparing for your initial tech screen, but engineers recommend them to understand the entire technical interview process.



How to Approach Coding Problems During Your Interview

Before you code

- Ask clarifying questions. Talk through the problem and ask follow-up
 questions to make sure you understand the exact problem you're trying to
 solve before you jump into building the solution.
- Let us know if you've seen the problem previously. That will help us understand your context.
- **Present multiple potential solutions, if possible.** Talk through which solution you're choosing and why.

While you code

- Don't forget to talk! While your tech screen will focus heavily on coding, the
 engineer you're interviewing with will also be evaluating your thought
 process. Explaining your decisions and actions as you go will help the
 interviewer understand your choices.
- **Be flexible.** Some problems have elegant solutions, and some must be brute forced. If you get stuck, just describe your best approach and ask the interviewer if you should go that route. It's much better to have nonoptimal but working code than just an idea with nothing written down.
- Iterate rather than immediately trying to jump to the clever solution. If you can't explain your concept clearly in five minutes, it's probably too complex.
- Consider (and be prepared to talk about):
 - Different algorithms and algorithmic techniques, such as sorting,
 Divide-and-conquer, recursion, etc.
 - Data structures, particularly those used most often (array, stack/queue, hashset/hashmap/hashtable/dictionary, tree/binary tree, heap, graph, etc.)
 - O memory constraints on the complexity of the algorithm you're writing and its running time as expressed by big-O notation.
 - Generally, avoid solutions with lots of edge cases or huge if/else if/else blocks, in most cases. Deciding between iteration and recursion can be an important step.



After you code

- Expect questions. The interviewer may tweak the problem a bit to test your knowledge and see if you can come up with another answer and/or further optimize your solution.
- Take the interviewer's hints to improve your code. If the interviewer makes a suggestion or asks a question, listen fully so you can incorporate any hints they may provide.
- Ask yourself if you would approve your solution as part of your codebase. Explain your answer to your interviewer. Make sure your solution is correct and efficient, that you've taken into account edge cases, and that it clearly reflects the ideas you're trying to express in your code.

What to Practice: An Example Tech Screen Study List

Everyone could use a refresher in at least one core area! Before your initial tech screen, brush up on CS fundamentals— especially algorithms, data structures, object-oriented design, and design patterns in general. Review foundational techniques—recursion, graph theory, tree traversal, combinatorial problems, and so on.

Looking for more detailed guidance on what to review for your tech screen? The exercises below have been helpful for many engineers preparing for a Meta tech screen and can assist you in solidifying your understanding of data structures and algorithms. Feel free to use this list as a starting point and tailor it to suit your areas of need.

Overview:

- Each exercise could take you up to one hour.
- These solutions are written in Java, but you will be able to use your language of preference in an interview.
- Remember how to analyze how "good" your solution is: how long does it take for your solution to complete? Watch this video to get familiar with Big O Notation.



Exercises:

Note: These exercises assume you have knowledge in coding but not necessarily knowledge of binary trees, sorting algorithms, or related concepts.

• Topic 1 | Arrays & Strings

- o <u>A very Big Sum</u> (Warm-up, learning how to use HackerRank)
- o <u>Designer PDF Viewer</u>
- o <u>Left Rotation</u>

• Topic 2 | Lists

Pre-work: If you need to familiarize yourself with how lists work, watch this video

Exercises:

- o <u>Insert a Node at a Position Given in a List</u>
- o <u>Cycle Detection</u>

• Topic 3 | Stacks & Queues

Pre-work: If you need a refresher, take a look at this video.

Exercises

- o <u>Balanced Brackets</u>
- o Queue Using Two Stacks

• Topic 4 | Hash & Maps

Pre-work: If you need a refresher, take a look at this video.

Exercises

- o <u>Ice Cream Parlor</u>
- o <u>Colorful Number</u> (This one might be challenging. Remember, if you get stuck, refer to our proposed solution).

• Topic 5 | Sorting Algorithms

Pre-work: If you need a refresher take a look at this video: Merge Sort

Exercises

- o <u>Insertion Sort part 2</u>
- Quicksort part 2



• Topic 6 | Trees

Theory: If you need a refresher, take a look at this video.

Exercises

- o Binary Tree Insertion
- o <u>Height of a Binary Tree</u>
- o QHeap1

• Topic 7 | Graphs (BFS & DFS)

Theory: Watch <u>this video</u> to understand what a graph is and how to traverse it.

Exercises

- Breath First Search
- o Snakes and Ladders

• Topic 8 | Recursion

Theory: Watch this video to review concepts on recursion

Exercises

o Fibonacci Numbers

All solutions are available in this public repository: Solutions

Final Tips for your Interview

- **Be yourself.** This means being open and honest about your successes and ways you've improved throughout your career. Also, be sure to call out how you have specifically added value to your team or projects you've contributed to. We value teamwork and what each individual member brings to the table.
- Carefully review and familiarize yourself with the job description and perform research on Meta and the role. Be prepared to answer why you are interested in this specific role and in working at Meta.
- Please take the time to review our <u>mission statement</u> and <u>core values</u>. These
 values influence how we work together to fulfill our mission of bringing the
 world closer together. We also encourage you to take time using our products
 such as Facebook, Instagram, Messenger, and WhatsApp.
- Prepare thoughtful questions for the interviewer(s). Your interviewer may
 challenge your ideas, and you should be ready to speak not only to what you
 recommend or have experienced but the why as well. It is important to think
 outside the box and to approach problems from creative and different
 perspectives.



Post Interview - What to Expect

You can expect your recruiter to provide a specific timeline or updates along the way. Your recruiter will inform you of next steps after your interview as soon as they are available. Feel free to follow up with them if you have not heard within a week of your interviews.

Appendix / Resources

Below is a curated list of resources to get started and help you prepare.

Meta's Technical Environment

- Engineering at Meta FB page
- Meta Code videos
- Meta Opensource website
- Engineering Leadership at Meta blog

Meta Resources

- About Meta website
- Meta Newsroom website
- Meta Careers website
- Meta Life website
- Meta Employee Benefits website
- Interviewing at Meta: The keys to success blog

Update personal information, track interview progress, and send thank you notes.

At any time during the interview process, you can track your progress, send thank-you notes and update your personal information all via the <u>Career Profile</u>. If you do not receive a link from recruiting, you may create one.

Thank you for taking the time to review this guide!

