What kind of technical questions will I be asked?

- Questions that focus on architecture, design, and approach to problems more than the fine details of the solution
- Questions that focus on what areas interest you technically

What WILL NOT be asked or expected during my interview?

- No whiteboard coding or finite circuit analysis during the interview.
- No live coding or calculator circuit analysis during the interview.
- No riddles, complex logic, trick questions, or puzzles.
- No questions about anything you DO NOT CLAIM to know.
- No long questions with multiple parts.
- No questions dug out of some obscure text book or internet search.
- No one will be reading your resume during the interview.

What should I NOT bring to the interview?

- Do not bring your resume – no one will read it during the onsite interview.
- Uncomfortable clothing – we want you to be comfortable and relaxed.

What should I bring to the interview?

1. Please bring anything that you have designed and built as a hobby or from work. If you are bringing creative work examples, make sure your example or presentation DOES NOT REVEAL any protected intellectual property.
    a. Here are some hobby examples for inspiration. This is not an exclusive list.
        i. Ruby the robot – https://youtu.be/sieoBzGjiU4
        ii. Short wave radio
        iii. Drone
        iv. Android or MAC SW application, typically for the cell phone “app” market

    b. Here are some work examples for inspiration. Again, we do not want to see any protected intellectual property (IP) and this is not an exclusive list.
        i. A printed circuit board prototype (IP artwork should be covered)
        ii. A process monitor design
        iii. A high level BIST design
        iv. An embedded SW driver or controller

c. Here are some format ideas to communicate what you have built:
    i. Power Point presentation
    ii. Napkin drawing
    iii. YouTube video
    iv. 3D rendering
    v. A “Show-n-tell” object to pass around

2. Orally, describe various schematic blocks at a high level - no calculator required. Example sent in a separate attachment.

3. Orally, explain any recent technical paradigm or concept that you initially found difficult to understand.

4. Please bring a working code example (any language) predicting the target ‘hardbin_FT1’ from the attached data set.

ML problem details:

- Target: column ‘hardbin_FT1’. Value of 1 == passing device, any other value == failing device. The goal is to predict failing hardbin_FT1 devices.
- Report crosstab/confusion matrix results on test data. If practical, show highest ranked features.
- There is no pass/fail based on your confusion matrix results – we want to get to know you & have something to talk about – NOT criticize your model performance.
- Primary Key/unique row ID = column ‘ecid’. Value is a unique chip ID for any device over all time.
- Features/column descriptions:
    - ecid = Metadata – not a feature, a unique serial #
    - A—J = electrical test equipment measurement results
        - “A_1 … A_48” are grouped as the same test under 48 different conditions
        - “B_1 … B_10” are grouped as the same test under 10 different conditions
        - This naming convention continues through the “J” group of columns
        - “A_1”, “B_1”, … “J_1” are not the same test & not the same condition
        - Example: The “J’s” are specific voltage measurements & the “G’s” are specific current measurements
    - diex_WS1 = spatial location on wafer.
        - When groupby(wafername_WS1), each ecid for a specific wafer has neighbors based on the diex_WS1 & diey_WS1 cartesian coordinates
    - diey_WS1 = spatial location on wafer.
        - When groupby(wafername_WS1), each ecid for a specific wafer has neighbors based on the diex_WS1 & diey_WS1 cartesian coordinates
    - site_WS1 = spatial location on wafer test equipment.
    - totaldietestseconds_WS1 = how long wafer tests took.

- touchdownseq_WS1 = normalized time of when each ecid was tested on a particular wafer
    - When groupby(wafername_WS1), each ecid for a specific wafer will have an order of when they were tested w/ respect to other ecids on this wafer
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- wafername_WS1 = Metadata – not a feature – but can be used for grouping
- hardbin_FT1 = Target. Value = 1 (passing device), value != 1, (failing device)
- site_FT1 = spatial location on final test equipment.
- totaldietestseconds_FT1 = how long final tests took.