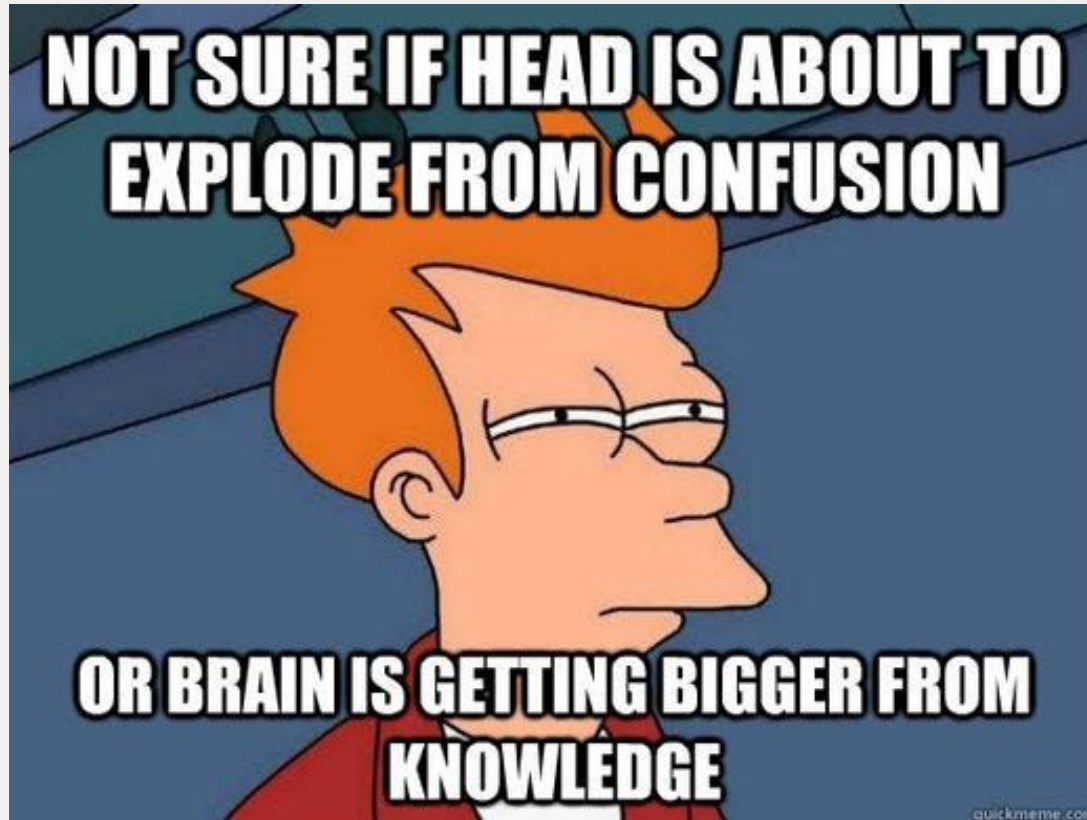


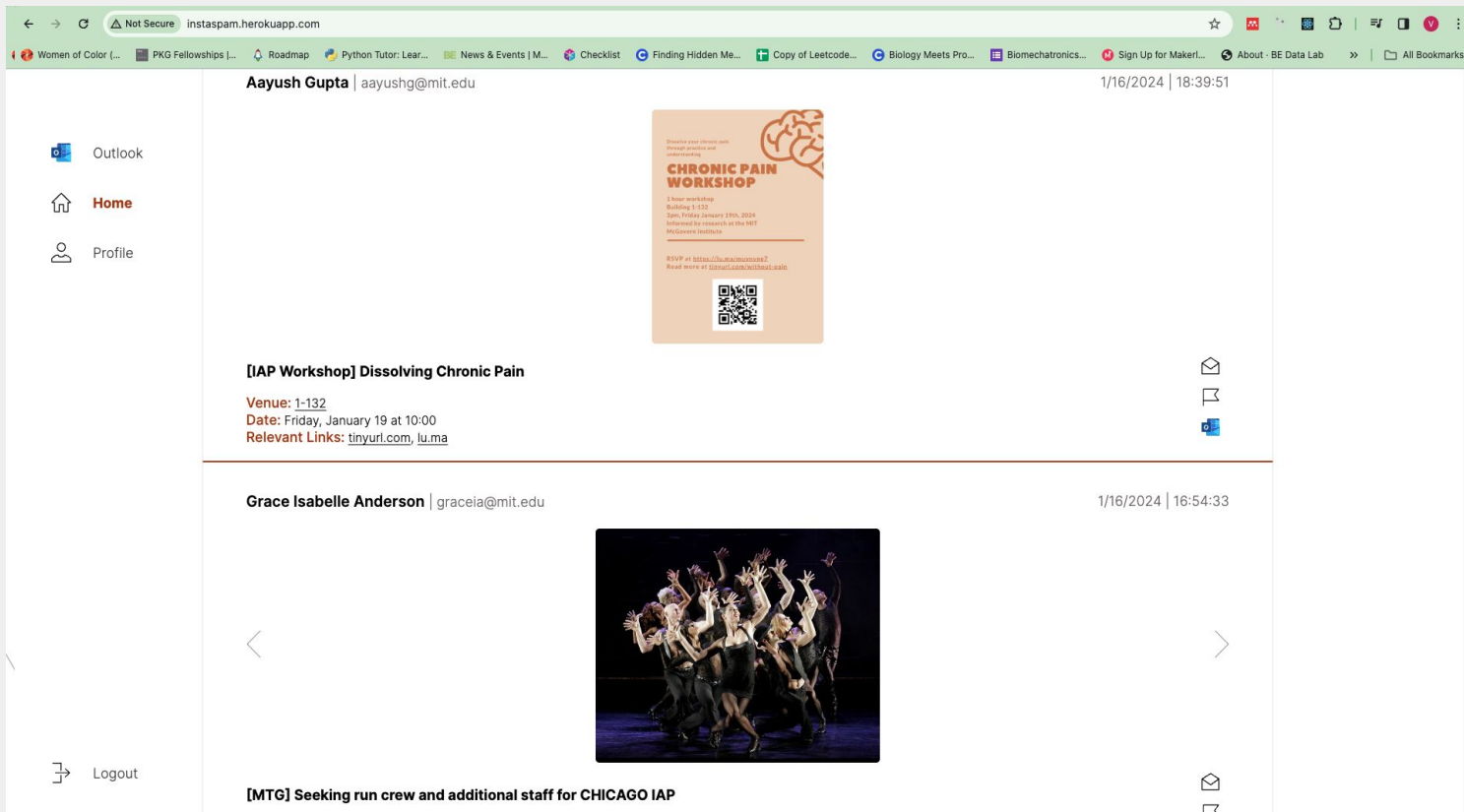
Recruiting in Industry

Victory Yinka-Banjo

How it started (web.lab 2023)

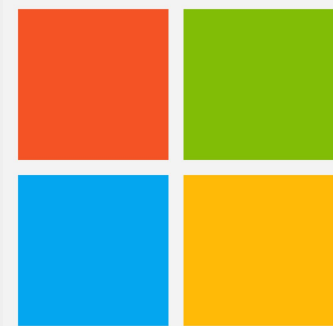


How it started



Instaspam.herokuapp.com (4th place, web.lab 2023)

How it's going



(research)



Goal: monetize your web dev skills

Getting your foot in the door for **software engineering (SWE)** internships

What does SWE entail?

- Back end
- Front end
- Full stack
- Android mobile
- iOS mobile
- Cloud architecture/infrastructure
- Security engineering
- ML engineering
- *and many more niche specialties...*

weblab 🤪

My friend who made Gmail better!



You will likely do cooler things!

Step 1a: Update your resume (projects)

- Create projects section if you have more than one project (else experience)
- Include details about architecture (WebLab competition submission descriptions)
- Continue working on CS projects :)

PROJECTS (Spring 2023, right after WebLab)

InstaSpam, *Web Lab Programming Class and Competition (6.9620)*

Jan 2023 – Feb 2023

- Utilizing Microsoft Graph API, built a web app from scratch to allow MIT students browse ‘dorm-spam’ (emails accessible by students living in dorms) in a social-media-like ‘feed’ format with options for reading and flagging emails ([GitHub](#))

Green Go, *HackMIT 2022 Sustainability Track*

Oct 2022

- Collaborated with a team (as frontend developer) to create a web application/dining tracking system ([GitHub](#)) to encourage sustainability across college campuses by incentivizing the return of plastic QR-coded eco-clamshell takeout boxes

Plasmodium, *HackMIT 2023* [\[code\]](#) (Fall 2023)

Sept 2023

- Using **MATLAB**, **OpenCV**, **U-Net** & **R-CNN**, created a computer vision web app to swiftly (in < 2 mins) diagnose malaria by analyzing blood cell imaging data; awarded \$500 for placing 1st in company-sponsored healthcare tech challenge.

ArchiGen, *Artificial Intelligence at MIT Labs (AIM Labs)* [\[code\]](#)

Jan 2023 – May 2023

- Developed a generative AI/stable diffusion web app, using **Flask**, **PyTorch** and **GPUs**, that creates several layouts of a floor plan to meet user-specified constraints, implying a deep learning model that breaks architectural creativity bounds.

InstaSpam, *Web Lab Programming Class and Competition (6.9620)* [\[code\]](#)

Jan 2023 – Feb 2023

- Utilized **Microsoft Graph API** & **MERN** stack to build an app to allow MIT students browse ‘dormspam’ (emails accessible by students living in dorms) in a social-media-like ‘feed’ format with options for reading, flagging, and deleting emails.
- Awarded \$1,750 in cash for placing 4th overall out of over 60 competing MIT teams.

Step 1b: Update your resume (skills)

SKILLS

Python; Git; Linux; Conda; HTML/CSS; JavaScript; MongoDB/Express.js/ React/Node.js (MERN); Flask; R; PyTorch

Nice resume templates (more on the internet):

- <https://www.overleaf.com/latex/templates/software-engineer-resume/gqxmqsvsbdjf>
- <https://www.overleaf.com/latex/templates/jakes-resume/syzfjbzwjncs.pdf>

Step 2: Find a friend/community

- Your WebLab teammate(s) :)
- ColorStack
- Rewriting the Code
- Code2040
- CodePath (**take more practical CS classes**)
- Management Leadership for Tomorrow
- EdLyft
- Upperclassmen/peers who've done SWE for advice/referrals (**s/o to Tony Cui**)
- Company-specific MIT info sessions
- *and more...*
 - Share opportunities
 - Interview prep together!
 - Get job referrals from people (not always helpful)

Step 3: Find job listings :)

- Mark Benliyan LinkedIn notifs: <https://www.linkedin.com/in/markbenliyan/>
- LinkedIn generally - posts come up on your feed for SWE listings sometimes
- Pitt CS GitHub summer repo -
<https://github.com/SimplifyJobs/Summer2024-Internships/blob/dev/README.md>
 - Subscribe to mailing list too!
- MIT EECS Opportunities Listings 😬 (including IAP & Fall/Spring opps)
- Handshake
- Freshmen/sophomore specific -
<https://github.com/codicate/underclassmen-internships>
- Go to conferences you can get funded to (usually minority groups)
- Upperclassmen/peers again, word-of-mouth :)
 - Can find on LinkedIn! Indicate your interest in applying so they keep you in mind

Step 3: Find job listings :)

- When recruiting (appx.) happens (earlier the better)
 - Summer 2024: mid-Summer 2023 to mid-Spring 2024
 - Mostly Fall
 - Fall 2024: early Spring 2024 (can find opps Fall 2023 too) to mid Summer 2024
 - IAP 2025: (lots on Handshake): Early Fall 2024
 - Many of these don't make you LeetCode (LC)
 - Spring 2025: late Summer 2024 to late Fall 2024
 - Think 2 semesters ahead basically
- Start LC at start of cycle or earlier
- Don't forget to stay organized. Here's a notion template I modified
<https://notion-templates.notion.site/Job-Applications-a9fdbb7af80349babb75dcfa1a3742687>

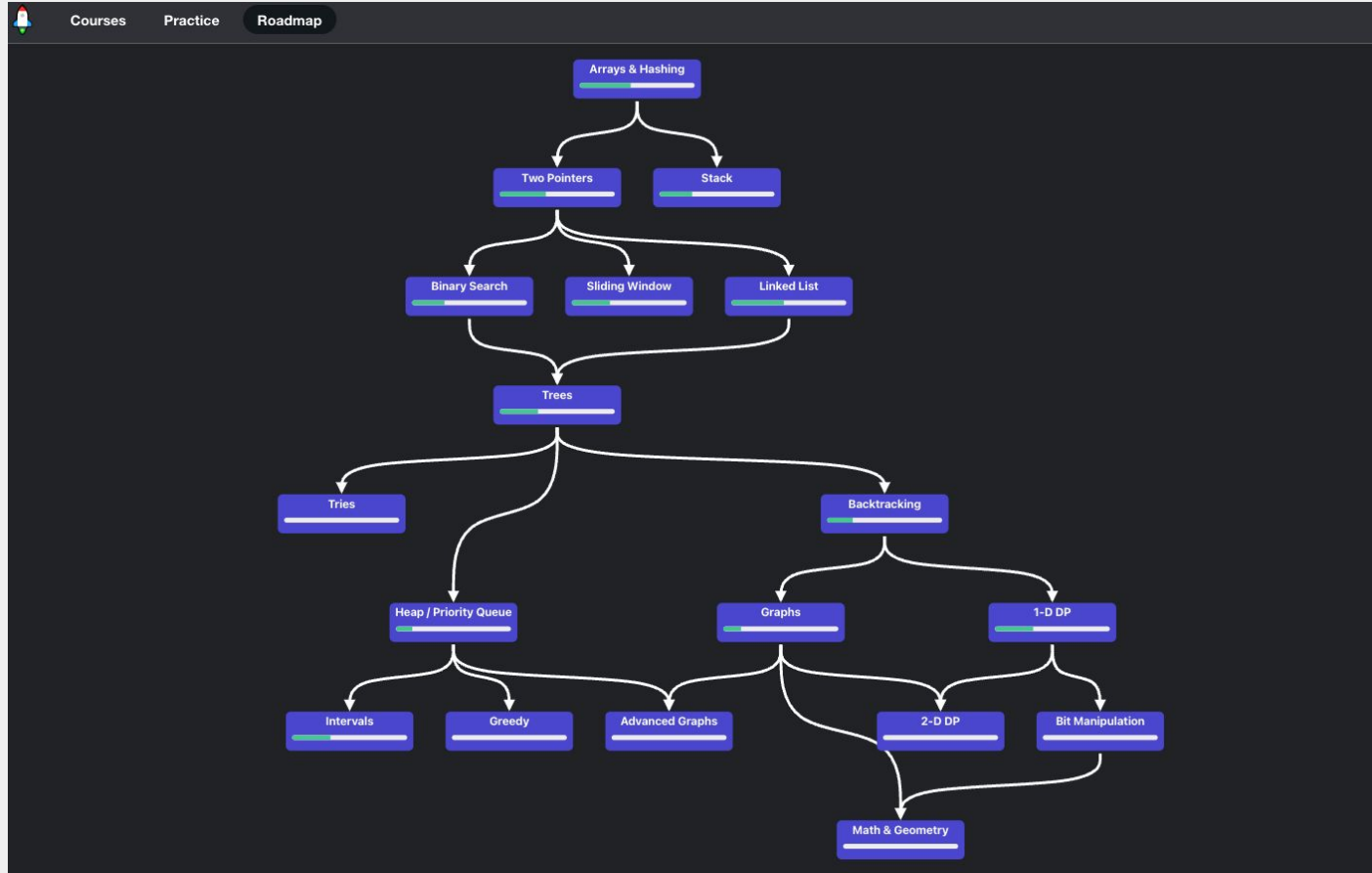
Sad reality: you don't typically
get a SWE internship by
being assessed on web dev

Instead, you...


Step 4: Grind Leetcode (& Neetcode)

- Most SWE interviews will test you on basic data structures & algorithms
 - Arrays & Strings
 - Two pointers, binary search & Intervals
 - Linked Lists
 - Graphs & Matrices (DFS, BFS...)
 - Trees
 - Heaps & priority queue
 - Dynamic programming (if unlucky lol, 6.1210 helps tho...)
 - Personally found programiz helpful for concepts: <https://www.programiz.com/dsa>
- Taking 6.101 (6.009) is very helpful! 6.1210 (6.006) helps too, but not essential
- Check out [Blind 75](#): a selection of most relevant LC questions
- Use [Neetcode Roadmap](#) for more practice questions & a good flow & great solutions
- Leetcode premium gives you company-specific questions!

Neetcode (neetcode.io/roadmap)




Leetcode (leetcode.com)

 [Problem List](#) [<](#) [>](#) [🔍](#)

[Description](#) [Editorial](#) [Solutions](#) [Submissions](#)

121. Best Time to Buy and Sell Stock

Easy Topics Companies

Solved 

You are given an array `prices` where `prices[i]` is the price of a given stock on the `ith` day.

You want to maximize your profit by choosing a **single day** to buy one stock and choosing a **different day in the future** to sell that stock.

Return *the maximum profit you can achieve from this transaction*. If you cannot achieve any profit, return `0`.

Example 1:

Input: `prices = [7,1,5,3,6,4]`

Output: `5`

Explanation: Buy on day 2 (price = 1) and sell on day 5 (price = 6), profit = 6-1 = 5.
Note that buying on day 2 and selling on day 1 is not allowed because you must buy before you sell.

Example 2:




Input: `prices = [7,6,4,3,1]`

Output: `0`


Explanation: In this case, no transactions are done and the max profit = 0.

Constraints:

- `1 <= prices.length <= 105`
- `0 <= prices[i] <= 104`

 [Run](#) [Submit](#)  

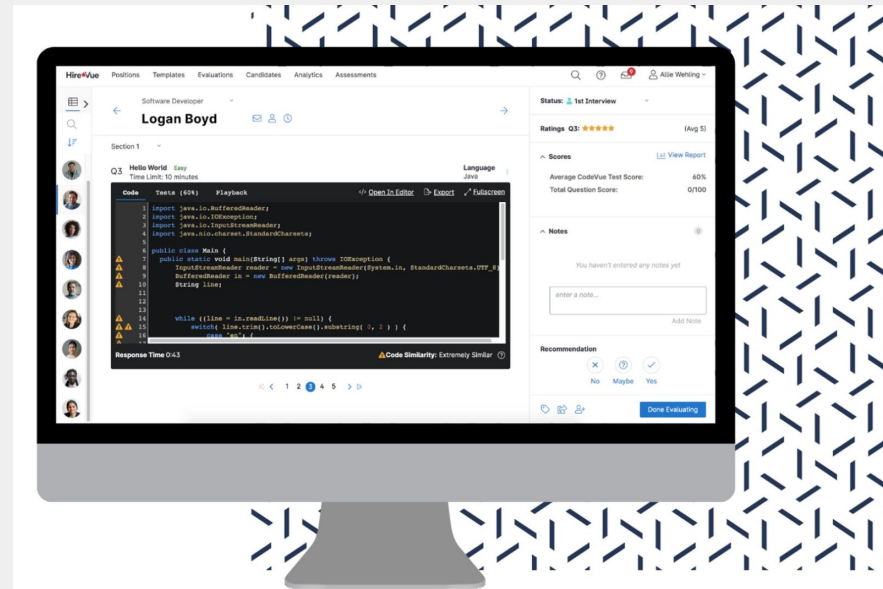
</> Code

Python3  Auto

```
1 class Solution:
2     def maxProfit(self, prices: List[int]) -> int:
3
```

Step 5: Resume Drop & Online Assessments (OA)

- If you pass the resume screen, you will likely take a **timed** assessment on:
 - Codesignal
 - Hackerrank
 - Company-specific site
- Questions will usually be leetcode-styled, generally DS&A
- If you get past the OA, you move on to interviews
- Some companies don't have OAs 😬



Step 6a: Technical Interviews

- Live timed interviews where you walk through code (and sometimes run)
- Free mock interviews: <https://www.pramp.com/#/>
- Free mock interviews: upperclassmen/friends ;)
- Communication!!
- Asking questions
- Multiple solutions
- Analyzing runtime complexity
 - [Runtime cheatsheet](#)
- Approach, DS&A used
- Correct/final solution (usually less important, depends on company)
- Speed, efficiency
- <https://www.techinterviewhandbook.org/coding-interview-rubrics>
- <https://www.techinterviewhandbook.org/coding-interview-cheatsheet>
- Be ready to talk about your projects: spoke about InstaSpam a lot

Step 6b: Behavioral interviews (usually chill)

- STAR (Situation, Task, Action, Result) Method
- Tell me about...
 - A time you had a conflict with co-worker and how you resolved it
 - A time when you failed something and how you overcame/grew past/handled it
 - Describe a time when you struggled building relationships with people virtually and how you went about it.
 - A time you volunteered to take on a significant assignment outside of your comfort zone in order to expand your capabilities. How often have you done this? What did you learn?
- Be ready to talk about your resume/projects again

Step 6c: Hiring manager/systems design

- Systems design is less common than technical code and/or behavioural
- Hiring manager usually final round and can also be some flavor of technical and/or behavioural
- Check those out:
 - <https://interviewing.io/guides/system-design-interview?fbclid=IwAR2jX2GlwvtsRFJdHeGcgAnVGsvHloosxE2Q4t02QcUpUFZXfVpEnlIX1tQ>
 - https://github.com/karanpratapsingh/system-design?fbclid=IwAR3k9DDospNpgBnRk5QnXXP8XgDG_i1UsG-wgipKELAOvwQHRfzdzarUsIY#system-design-interviews

Note: process differs by
company, less or more
rounds

Step 7: Accept your offer!

Make money and develop your skills :)

Disclaimer: recruiting can be hard, long & a game of luck



software engineers
complaining about their job



Good luck!