

2021 New Grad Job Hunting Experience Sharing

New Grad MLE / SWE Preparation and Interview Experience Sharing



Alvin Hou @ Stanford M.S. Computer Science

Outline

- Introduction
- Timeline
- How to get an Interview
- MLE/SWE Interview Preparation
- Interview Experience
- Q&A

About Me

Education



M.S. Computer Science @ Stanford University
(2019-2021)



B.B.A Information Management @ National Taiwan University
(2014-2018)

About Me

Work Experience



Incoming Machine Learning Engineer @ Twitter, San Francisco



Software Engineer Intern @ Apple, Cupertino



Machine Learning Engineer Intern @ Asus Intelligent Cloud Services, Taiwan



Software Engineer Intern @ IBM, Taiwan



工業技術研究院
Industrial Technology
Research Institute

Software Engineer Intern @ Industrial Technology Research Institute

About Me

Side Projects!



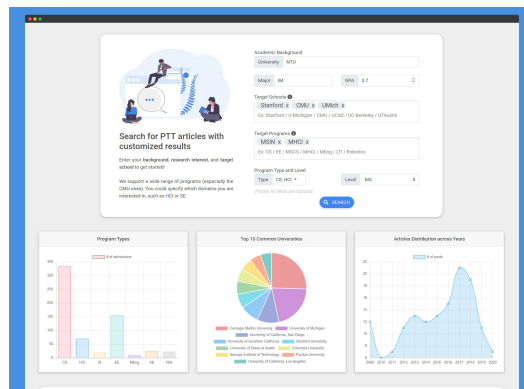
KMF-Unblock

提供者: alvinhou

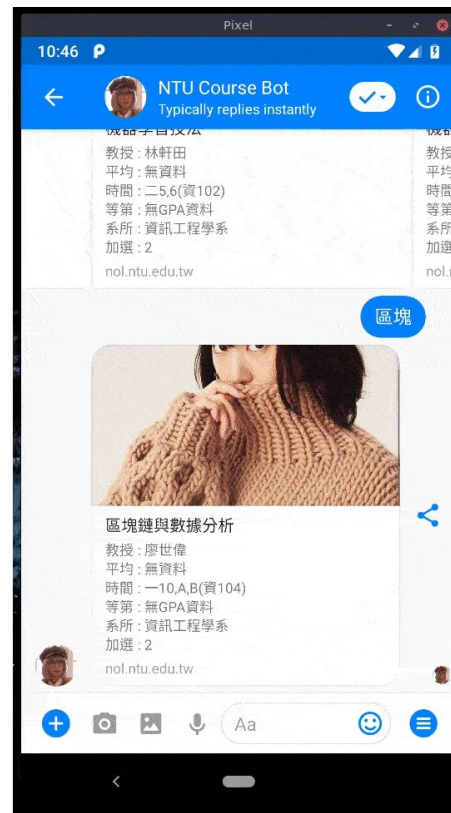
★★★★★ 31

開發人員工具

10,000+ 位使用者



PTT Studyabroad API

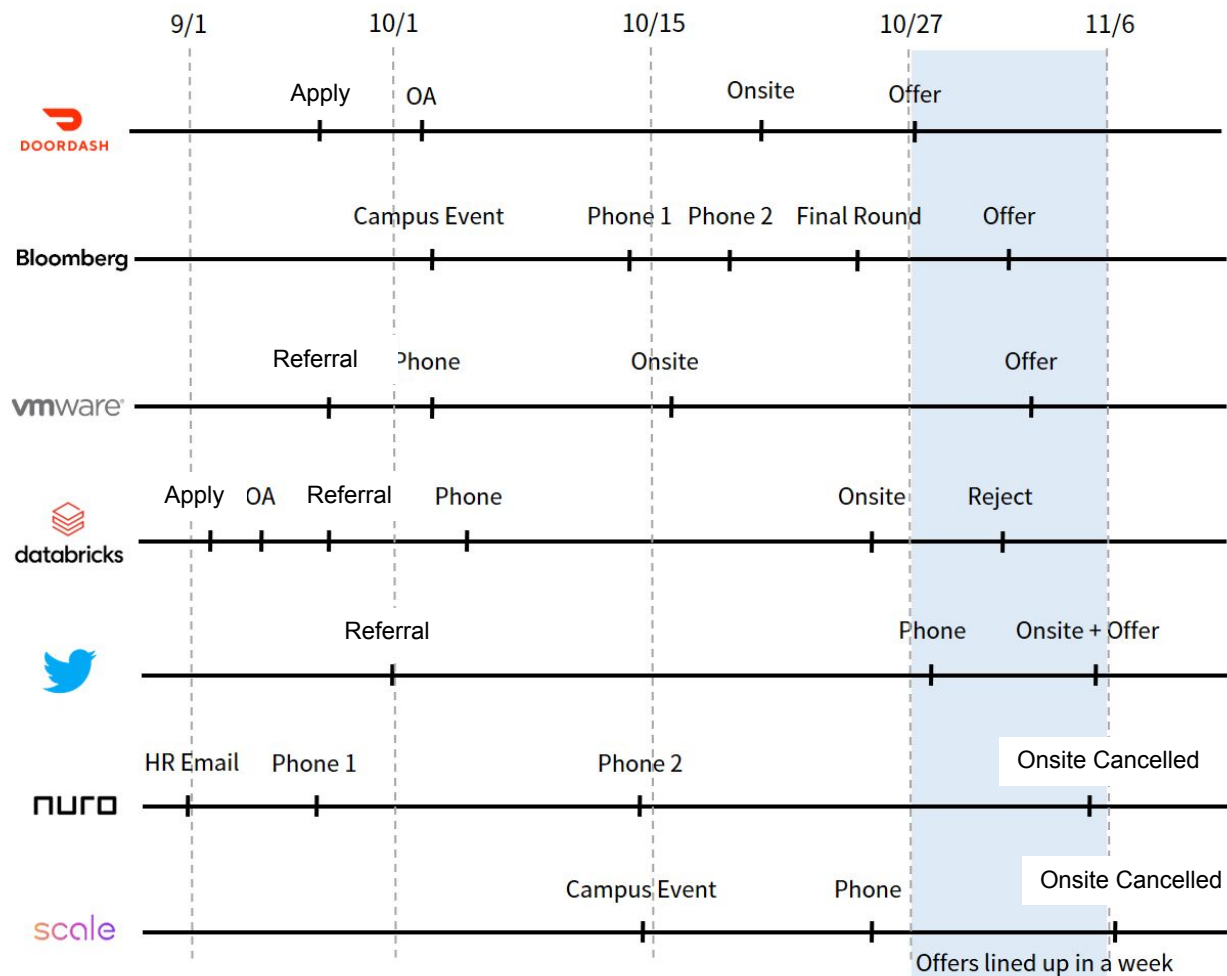


NTU Course Chatbot

Acronyms

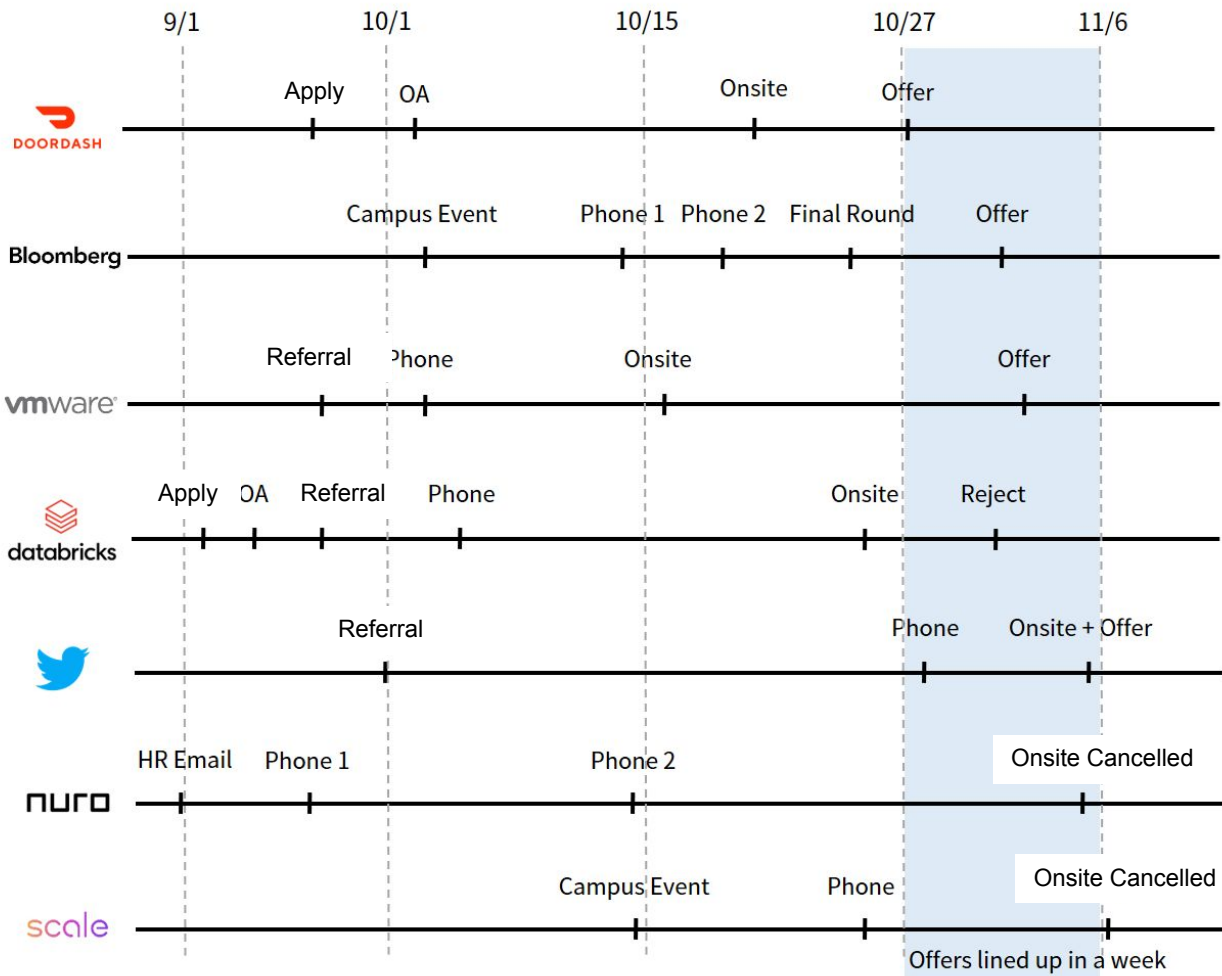
- SWE: Software Engineer
- MLE: Machine Learning Engineer
- OA: Online Assessment
- Onsite: Virtual Onsite (due to COVID)

Timeline



Timeline

- Preparation:
June – August
- Application:
August – September
- Phone Screen:
September – Mid October
- Onsite:
Late October – November
- Result:
1-2 weeks after onsite



Timeline - Tips

- **Apply as earlier as possible!!**
 - Apply as soon as a company opens a position, which can be **July ~ August**
 - You should get your resume/interview skills ready in late August
- Don't wait until 100% ready before you start applying jobs
- Try to schedule your interviews
 - Earlier is probably better, some of my interviews got cancelled at the end
 - Lined up offers for salary negotiation

How to get an Interview – Mass Apply

Mass Apply

- Check out [pittcsc/NewGrad-2021](#)
- Search on LinkedIn, apply on company website

You can start mass applying in June or August, the numbers may vary but 100~500 apps are common


The early, the better!

README.md

2021 New Grad Applications

The 2021 Full time grind has begun! Use this repo to share and keep track of any full time positions in quant, SWE, and PM.

Looking for internships? Check out our [internship repo](#) [here](#).

Need interview prep? Check out the [Zero to Offer](#)  [program](#) [here](#).

Contribute by making a pull request or using [this Google Form!](#)

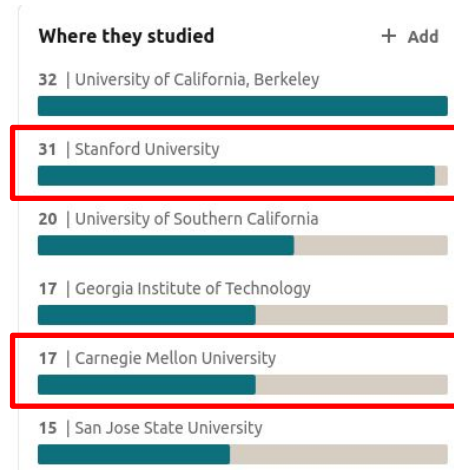
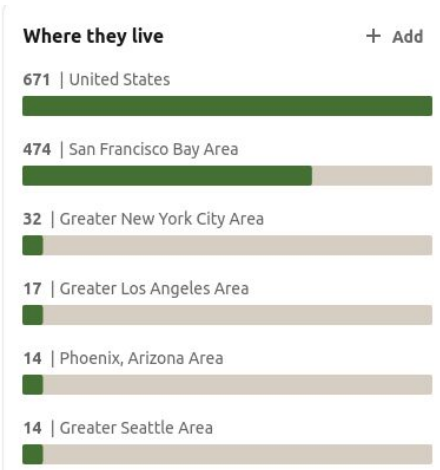
The List

Name	Location	Notes
ByteDance/TikTok	Singapore, Mountain View, San Diego	Remote allowed during pandemic. Referral code: VC7FSRM
Akuna Capital	Chicago, IL	Junior Developer (Software)
D.E. Shaw	New York, NY	Software Developer
Reservoir Labs	NY, Portland, or remote	Compiler Developer, Research Engineer
Facebook	Los Angeles, Menlo Park, Seattle, Washington DC, Boston, New York, other	Software, Network, Quant Research, Research Engineer

How to get an Interview – Target School

Target School

- Each company has its own target schools list
- Much higher chance if you're a target school
- Check for companies that come to career fairs
- See "People" stats on LinkedIn



LinkedIn People
Software Engineers @ Doordash

How to get an Interview – Campus Hire

Campus Events

- Try attend every campus event (e.g. career fair, info session, café chat)
- Companies hire from a pool of candidates that join the campus events
- Much easier to get an interview compared to applying online
- Some company almost only hires from campus events
 - Microsoft, Bloomberg, Adobe, Nvidia and Zillow

Bloomberg

3 Info Sessions
1 Coffee Chat

scale

1 Coffee Chat

How to get an Interview - Referral

Referral

- Referrals may help, but not as much as you think
- Referrals are ok-ish for general hire companies: FB, Google, Amazon
- The most effective referrals...
 - Forwarding your resume to the **hiring manager**!



Friends and seniors helped me reach out the hiring manager, super effective!

How to get an Interview

Be creative... just ask the company's CTO!

How to get an Interview – Ask Professors

- I'm extremely interested in Databricks but got ghosted after OA...
- Emailed Prof Zaharia, who is also the CTO of Databricks
- Got an interview in a week!

You miss every shot you don't take!

- Try reach out to professors, they might have connections with your dream company

Matei Zaharia

Assistant Professor, Computer Science
matei@cs.stanford.edu | [Google Scholar](#) | [Twitter](#)
Office: Gates 412
[Curriculum Vitæ](#)



databricks

I'm an assistant professor at Stanford CS, where I work on computer systems and machine learning as part of [Stanford DAWN](#). I'm also co-founder and Chief Technologist of [Databricks](#), a data and AI platform startup. Before joining Stanford, I was an assistant professor at MIT.

How to get an Interview – General Tips

Resume

- Resume is the key, try to ask for some advice
- Make sure your resume is ATS-friendly (<https://itsjafer.com/#/parser>)

Mock Interviews

- Mock interviews help you get off the nerves
- Find a interview style that you are comfortable with

Again, apply early!

Interview Preparation

Is it just... Leetcode?

Interview Preparation - **Leetcode**

Tips

- Remember the patterns. Quality > Quantity
- If you cover all the topics, you're in good shape (200 Problems should work)
- Redo the ones that you often forget

What I did last summer

- I redo 400 previous problems for preparation, no new problems
- Only work on new problems with a specific company tag when I get an interview

Recommendation:

- [Blind Curated List of Top 75 LeetCode Questions to Save Your Time](#)
- <https://cspiration.com/leetcodeClassification>

Interview Preparation - **Solve an Actual Problem (OOP)**

Solve an Actual Problem or OOP/OOD

- Test your implementation skills and coding style
- Correctness > Efficiency

Sample Problems

- Design a parking lot. Provide APIs to park and remove cars
- Design a factory worker schedule system
- Design a ranking system. Provide APIs to get top-k results

How to Prepare

- Try to do some sample questions
- Write more code!

Interview Preparation – **System Design**

System Design

- Test your skills in conceptual system design, less coding
- Database and caches are important
- Communication is very important, always clarify the specs during interviews

How to Prepare

- [Grokking the System Design Interview](#)
- [The System Design Primer](#)

Interview Preparation – For MLE roles

MLE interviews usually don't do tricky Leetcode questions, as far as I know...

Interview Preparation – ML Knowledge

Machine Learning Knowledge

- Important for MLE interviews
- Test your ML knowledge and ML modeling skills
- Usually ask questions about **ML fundamentals** instead of fancy neural networks

How to Prepare

- Be familiar with traditional ML (e.g. logistic regression, SVM, etc)
- Prepare about feature selection and training/testing basics
- [Stanford CS229 Machine Learning Cheat sheet](#)

Interview Preparation – ML System Design

Machine Learning System Design

- How to design an end-to-end ML pipeline?
 - A combination of ML knowledge and system skills
- Communication is very important, talk about the constraints, the goal the performance requirements of the problem
- **Start with an easy model**

How to Prepare

- [Grokking the Machine Learning Interview](#)

Interview Experience

- Briefly go through my interview experience with some company specific tips

Result

- Offer: Twitter, VMware, Doordash, Bloomberg
- Rejection: Databricks
- Onsite cancelled: Nuro, Scale

Interview Experience – Doordash



- No hard Leetcode questions
- Implementation skills are important
- Culture match matters, read their leadership/culture principle
- Easiest offer of all my interviews

Interview Experience - Bloomberg



- **Communication might be the most important part** of the interview
- 2 interviewers and 2 questions per round, 30 min/question
- Leetcode-style questions, easy - medium
- Why Bloomberg?

Interview Experience - VMware



- Interviewing for an MLE/SWE position
- Team specific hiring, team is working on ML/Infra/Performance
- No tricky Leetcode questions
- ML & System Design/Performance questions
- Great communication with the interviewers, awesome interview experience

Interview Experience - Databricks



- Hardest interview I've ever had
- Leetcode and system design are equally important
- Write optimal and bug-free code
- Sharpen your CS fundamentals, especially with database and concurrency programming

Interview Experience - Twitter



- Interviewed for an MLE position
- No tricky Leetcode questions
- Sharpen your ML fundamental skills!
- Great interview experience with a friendly environment

Q&A

Check out the Medium post for more details and useful links!

- <https://tinyurl.com/AlvinJobHunting>

Connect with me on LinkedIn

- <https://www.linkedin.com/in/alvinbhou/>



Thank you for listening, questions are welcomed!