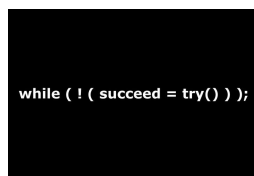


University of Notre Dame Guide to the Job Interview Process for Computer Science and Engineering Students

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We encourage students to enjoy studying Computer Science and Engineering at Notre Dame. Keep in mind that your goal is to aim for academic excellence and search for a career in the field that best fits you. In order to understand what type of work you may potentially do in your future, you should aim to intern at two or more companies during your undergraduate experience, requiring a career search typically to start as a second-year student. As an intern you will gain beneficial experience working on a team and dealing with the specifics of the job you are given. Whether you end up in a software development role or not, internships can help form your perception of your ideal career.

This guide will provide you with all the resources you need for your searches regarding Computer Science careers, jobs, internships, interviewing and more. This guide is oriented toward software development roles, but independent of the exact nature of your target job, the guidelines presented here should help to get an inside view of any interview process.



1. Preparing for a Job Search:

Every job and internship requires you to have at least one interview, which is why you need to keep this in mind before applying to any job. Interviewing well is the key to being able to secure an internship or job with a top company. Interviewing may be hard, but remember: *to relieve yourself from feeling stressed you should be organized and prepared.*

Before applying anywhere, be confident of your skillset and what you can bring to a company. As a student you are required to do a lot of work and study from day to night, but it is recommended that on your free time you feel interested in learning new coding languages or any skill for that matter so that you are qualified for a diverse assortment of opportunities.

Another important factor in preparing yourself to enter the workforce is participation in extracurricular activities. Being able to balance extracurricular activities along with your school work is a huge selling point to companies. Not only does it show time management, which is extremely important in work force, it also exemplifies many other great characteristics. Commitment to extracurricular activities shows reliability and demonstrates your interests. There are different types of extracurricular activities and they all hold different value. Use this portion

of the guide to see how you can use your participation in an extracurricular activity as a selling point to companies:

- **Sports:** Sports are an excellent way to show a company you deserve to work for them. Being on a team requires discipline, teamwork, hard work, and sportsmanship. Any company would be lucky to hire an employee with these qualities so one should definitely use them as a selling point. Also, if one is captain of his or her sports team, this can be used as an excellent attribute of leadership.
- **Clubs:** There are hundreds of clubs on campus for you to get involved in. If you are in a club that suits your hobby, this can show to a company that you are well rounded. Companies like well rounded people because it is usually a sign that they are adaptable. An adaptable employee is easy to train and very beneficial to have. If you are in a club that is related to your major, it is excellent because it shows that you have applicable experience and not just classroom experience. It also shows that you have interest and passion in your field.
- **Service:** Doing community service can show an employer what kind of person you are and what values are important to you. Someone who takes time out of his or her life to help others is most likely a reputable person. If you are involved in service, it is definitely something to make room for on your resume and to bring up in an interview.

As a student applying to internships and entry-level jobs, you may or may not have very much work experience to discuss, so referencing extracurricular activity experiences in interviews and resumes can be extremely beneficial in obtaining a position.

Then, after building your skills and experience, you can consult with the Career Center where you can find great things like mock interviews and resume workshops to present those skills professionally on paper and in person.

Your resume should resemble a functional style resume of your choice. You could structure your resume in different ways; one way is by showing a connection between your skills and the position. Another way is to connect your skills and experience to relevant skills necessary for your target industry and role. Not following these resume styles is not a problem, but you must show your best creativity in however you design your resume. Refer to the Career Center for more information on resume workshops and more.

Finding a job or internship requires research. You should search different internships/jobs to get an understanding of how various positions function. It is important to connect your skills with the skills necessary for the position. Moreover, feeling interested about

different positions will help you participate in more events on campus, which could lead to other opportunities.

It's also important for you as the applicant to do research regarding the company that is offering the job/internship that you're seeking. You can start with a google search and read about the company and people working there. It is important you know about the company and what they have to offer. This will impact your perception of whether you fit into the company. If you find a position for a company that you are interested in, then see how you would fit in as a member of the community and how both you and your employer would benefit from each other.

Eventually, you will arrive at your first interview. It is the first connection made between you and the company. The interviewer will ask a lot about you, primarily whether or not you have the skills for the job or internship. Secondly, you should show interest in the position and feel confident about it. Lastly, you and the interviewer will be able to evaluate whether you are the right fit for the role.

The rest of this guide will serve as a step-by-step resource for you as you navigate interviews, offers, and beyond.

2. Finding an Interview:

Once you have refined your resume and narrowed your professional interests, the next step is to locate a batch of potential employers in your field of interest and to approach them for interview opportunities. There are a couple approaches toward this selection:

- **Widespread approach:** One option is to quickly distribute your resume to a wide selection of businesses in your desired sector of the industry. One possible benefit to this approach is the simplicity of the procedure - just email/submit a resume and move on. This makes it simple to hit a large number of potential jobs in a short amount of time given a well-prepared resume and cover letter if necessary (probably a boilerplate template). The major disadvantage of electronic distribution is the impersonality of the process; instead of any face-to-face contact with the employer, your presence from the employer's perspective will be a purely electronic one. Depending on how your application is submitted it might not even make it to a recruiter. As a result, this approach will likely require a great deal more attempts than alternative methods.
- **Fine-grained approach:** An alternative solution is to leverage University resources to narrow the search to a set of employers with easily-attained personal contacts. A typical approach to this is a career fair, where employers send recruiters (in some cases alumni) to the University to collect resumes and initiate hiring processes in person. This is a great option to get one-to-one time with a company representative, which in turn tends to have a greater likelihood of progressing further into the interview pipeline.

University career resources typically do not end at fairs, as it is likely that you can get in contact with alumni in other contexts, like via faculty or University career services. This is another great option as it will demonstrate initiative to companies evidenced by reaching out through a (hopefully) trusted and proven channel. However, conversely from the widespread approach, the networking requirements introduces time overheads for each application submitted, meaning you might submit a fraction of the applications in the same timeframe as someone following the previous option.

The decision between these two approaches is dependent on the individual. Those with very strong, eye-catching resumes might get great results from casting a wide net, while others might get better results from spending time on networking. If one approach fails for a reasonable period of time, you might consider getting better results from another method. In the end, the result is hopefully the same: you have obtained an interview!

3. Preparing for an Interview/How to Interview:

Now that you have the interview scheduled and the day's approaching, it becomes critical to invest time into preparing for the interview. What is important to note, though, is that there is no universal approach to an interview, because there is no universal interview! Each company and each position looks for something different, whether it's skills, experiences, or any other number of factors. Particularly for jobs asking for a computer science foundation, the way that each company evaluates candidates makes the interviewing process far from homogeneous. However, it will be helpful to use the following as a "standard" interview process for your interview preparations. As you read through, reflect on what you personally would need to prepare ahead of time in order to be ready:

Behavioral: You'll typically encounter this kind of interview early in the process. Simply speaking, a "behavioral" interview is just a means for a recruiter to get you talking. Typically, the conversation focuses on what is listed on the resume, information about the company, general interests, situational questions, and other general (not to be confused with easy!) questions about you. These questions are not intended to be difficult to answer, but having a few ready-made answers can be helpful to get you comfortable and start the interview in the right direction. You should be ready to answer:

- "Talk through your resume."
- "What makes you interested in Company X?"
- "Tell me about a leadership (or teamwork) experience"
- "Tell me about a time you overcame a challenge"
- "Any questions for me?"

Note the last question. This may seem arbitrary, but recruiters are generally *expecting* questions from you. Although the focus is on you, the recruiter will also talk about the company

and role in question. By simply asking something, this tells the recruiter that you are listening, engaged, and interested in moving forward. Don't appear apathetic by not asking something! Either have a question prepared before you walk in, or be prepared to dig into something the recruiter says and ask something about information disclosed in the interview.

Along the way, be sure you are presenting yourself as a professional. If your interview is in person, how you look is important so it's recommended you look and act professionally. Some of the things you are responsible for are: be early, dress professionally, bring your notes and resume, greet people properly, and represent yourself with your accomplishments.

Technical Assessment: So you impressed the HR representative. Great! But the company wants more than a smooth talker. You need to prove your skills! Specifically for software development jobs, expect two flavors of the assessment:

- Phone Screen: An engineer is on the other side of the line, and he/she asks you technical questions (from as simple as "what is ___ algorithm?" to "given ___ situation, how would you solve the problem?"). This part could get dicey, but this is why you worked hard for a 4-year engineering degree! These questions should be answerable from your education, so don't sell yourself short and freeze! However, if there are some classes you remember struggling in, be sure to brush up on topics before the interview. Specifically speaking, you should be prepared to discuss:
 - Basic algorithms and complexity
 - Data structures
 - Core OS principles
 - General knowledge of OOP (overloading, templating, classes, etc)

The key for success is conveying as much knowledge as reasonable to the interviewer. If there's something you don't know, say what you do know relevant to the topic at hand. Being "conversational" about computer science is the goal, so ensure you know core topics well enough to talk about them.

- Online Coding Assessment: You are given a link to a test, and you have a limited time to complete the questions given to you. Generally, you get a problem statement and a blank IDE to code your solution. Simple, but under timed constraints, this can be daunting! However, the best advice to remember is that if you start panicking, just stop and breathe for a minute. Don't look at the screen, don't type a single character. You need to reset, then after a few moments, read the statement again and see what new insight you can get. Oftentimes, you might have missed a critical assumption or mathematical / data structure property that cracks the puzzle wide open. Don't be afraid to spend a moment on *you*, and then the test! Additionally, the first time you see the problem, you should start

thinking in terms of data structures and algorithms. Start cycling through the ones you know and apply them to the problem. Does it work? Is it slow? How much memory is it using? Keep cycling and debating through options until you find one that will reasonably solve the problem. And once you find one, stick with it! Do not try to think of another solution once you decide to code one; you just don't have that kind of time!

Final On-Site: Now that you have proven you have some skills, you are now worth the plane ticket and hotel accommodations for an on-site interview. First off, congrats! Companies generally don't have large budgets to fly candidates out for interviews, so they have already made an investment in you by bringing you here. Not many people make it to this step! However, your on-site interview is the final chance for the company to pick your brains and see your best. Also, believe it or not, this is the company's chance to impress *you!* That's right, they want you to enjoy your day and, if an offer is made, accept it as soon as possible. Because of this dichotomy, there is often very wide variability in final round interviews, with the spectrum ranging from tons of swag and food to make you think the company is awesome, to brain-busting algorithm questions you must solve on a whiteboard. In either event, realize that by completing previous interviews, you already have a basis for what will happen on-site. In your behavioral interview, you talked about your experience and why you applied; today is the chance to get fired up about the company or realize that this isn't for you. Come prepared to learn about the company and whether you'd be a good addition to it! Alternatively, in your technical screening, you saw what they're interested in seeing in terms of a candidate's knowledge. Pro tip: there's a reason why they asked you what they did! The questions asked already are probably closely linked to the desired role's day to day work. Got caught off guard by a computer architecture question in the last round? Review some basics before today! It might be helpful to use extra resources to study (Most Computer Scientists recommend Gayle Laakmann McDowell's *Cracking the Coding Interview*). That knowledge is probably worth something in that role. After all, there are so many topics covered in a computer science education, there must be *something* in play that forms the material for an interviewing process.

Lastly, if you are ever worried about any step, there is no harm in asking for a general overview of the day's interview. Generally, you will be told ahead of time what kind of interview to expect (technical vs. behavioral), but as you advance various levels of the process, the next step's objectives may not be easily known. Send your interviewer an email ahead of time asking for a rough idea of what to expect! Your interviewer wants you to do well, and having an idea of the interview ahead of time will calm your nerves. Don't be afraid to ask!

4. Negotiating and Accepting the Offer:

Assuming everything went well with your interviews, you are hopefully here - time to make some decisions! The first thing to consider after receiving an offer is to consider if you would gain anything by negotiating. This is an important consideration to make, as the process

of negotiations is a careful balance of risk and reward. Sure, you might get a nice bump in pay if you press your recruiter, but press too much and you might even lose the offer! When entering into negotiations, it is always helpful to have more than one offer in hand. In this case, you can enjoy some security in negotiating with a backup plan, and if your preferred employer has the lesser offer, you might be able to end up with the best of both worlds. In any case, proceed at your own risk and discretion, bearing in mind that every scenario is different from person to person.

Finally, once all the cards are on the table, you can make your choice in where you would like to end up. If this is a long term position rather than an internship (or perhaps even if it is an internship), pay attention to all facets of each offer; maybe one has great pay, but a location that you dislike, or maybe one has lower direct compensation in favor of great benefits. Like in negotiating, every person's case is different. The important part is to carefully weigh options before deciding, as it is a very bad idea to back out of a job after signing.

5. Conclusion

At this point, you have completed your interview process! Congratulations! Hopefully this guide has helped you in some way, and now you can get on with your career and education knowing that you have completed your first major step into the world of professional engineering.