

DEPARTMENT OF COMPUTER SCIENCE

Whitacre College of Engineering



Overview

Embarking on a journey in computer science is both exciting and challenging. As technology continues to evolve at a rapid pace, the opportunities for computer science graduates are vast and varied. Whether you're passionate about software development, data science, cybersecurity, artificial intelligence, high performance computing, machine learning, logic programming, networking, drone software, robotics, visualization, embedded systems, quantum computing, or any other tech field, the Computer Science Dept. at Texas Tech has designed this guide to help you navigate the path from college to a successful career.

This guide is your companion as you transition from student to professional. Each section is filled with actionable advice, real-world examples, and resources to support you every step of the way. Whether you're just starting your college journey or nearing graduation, this guide will help you build a strong foundation for a successful career in computer science.

In addition to this guide, members of the Computer Science External Advisory Board (EAB) also highly recommend Beyond Cracking the Coding Interview (2025) as a suggested resource. This book takes a data-driven approach to the entire process of getting a software engineering job, covering:

- Interacting with recruiters
- Negotiation tactics
- Deep dives on technical interviews
- Non-technical aspects of hiring

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Searching for Jobs & Internships

When beginning your job search, you should first make a list of companies and organizations for which you think you could have a rewarding career where you can continue to be a lifelong learner to be able to keep your skills current and take them to the next level.

If you aren't familiar with a large number of companies, take advantage of search engines to help you find companies large and small that either specialize in technology or require a significant amount of technology to support their business. From there, you will want to go to the website of these companies and organizations. Almost every company and organization, including giants like Google, Microsoft, Amazon, and Meta, have a dedicated career page on their website for applicants to learn more about them. These pages often list internships, entry-level positions, and programs specifically designed for recent graduates.

amazon

licrosoft

There are several popular and reliable platforms that can help connect you with potential employers. Here are some common places to find these opportunities related to Computer Science:

Google

- Hire Red Raiders
- Engineering Raider Recruit
- <u>LinkedIn</u>
- Stack Overflow Jobs
- <u>Wellfound</u>
- <u>BuiltIn Austin</u>
- <u>Dice</u>
- Indeed
- <u>Glassdoor</u>
- <u>ZipRecruiter</u>

∞ Meta

Searching for Jobs & Internships

Now, because Computer Science is a field that is dynamic, always evolving, and relevant to a broad range of industries, searching for roles can be a bit tricky. Just searching for jobs in "Computer Science" might not yield many lucrative results.

Roles are not limited to just traditional tech companies either; computer science graduates are in high demand in industries such as...



You can leverage your skills to create impactful solutions in any industry that interests you!

Searching for Jobs & Internships

Using the right search terms can help you find relevant opportunities more efficiently. You can search with general terms, by specific skills and/or technologies, or with industry specific terms. Below are some examples.

Note: This is not a complete list, just examples that we have seen in the past.

General Search Terms

- Software Engineer
- Software Developer
- Programmer
- Web Developer
- Network Engineer
- Data Scientist



Search Terms Using Specific Skills/Technologies

- Python/Java/Etc. Developer
- Full Stack Developer
- Front (or Back) End Developer
- Data Analyst
- Machine Learning Engineer
- Cybersecurity Analyst
- Cloud Software Developer/Engineer
- Mobile Software Developer/Engineer

Industry Specific Search Terms

- A good template to follow is searching by the [industry name] + [skill/position]
- Finance Technology
- Investment Analyst
- Game Developer
- VR Designer/Developer
- Game Ecosystem Engineer
- Healthcare IT Specialist
- Information Security Analyst

It also helps to add your preferred location to your job search, as well as using filters to narrow down your search (full/part-time positions, company size, experience level, etc.).

If you're searching for internships, these same tips apply, just add the term "intern" or "internship" to your search!

Applying for Jobs & Internships

Bear in mind that simply applying for a position by answering online questionnaires and submitting your resume may not be enough to get you noticed among hundreds of other applicants. Here are some tips to make your application stand out.

- Build your resume for each position you're applying for by emphasizing the skills and experience you have that meet the requirements of the position.
- 2. Add a cover letter that introduces you personally and expresses your heartfelt interest in the company and the position, and/or describes additional special experience or skills you bring to the table.
- 3. Follow up with the company's HR department and/or the hiring manager if you know who the person is. A simple follow up would express an appreciation for their consideration and your eagerness to help them in any way. Email is the best way to follow up, unless the company has already contacted you by phone.
- 4. Be very quick to respond to any inquiries you receive from the company based on your application.
- 5. Avoid submitting only a few applications to only your most preferred companies or positions. Cast a wide net to create as many opportunities as possible by applying to any and all positions that meet your criteria.

More information, as well as some examples, on resumes, cover letters, interviewing, etc. will be further in this guide.

Applying for Jobs & Internships

While positions can open year-round, so you always want to be checking, many larger companies often begin posting job and internship opportunities in the fall, sometimes as early as June/July. Applying early can make all the difference, so you want to be ready when an opportunity goes live.

There are tools like the <u>CS Careers Dev</u> and the <u>GitHub Internship Repository</u> (also linked at the end of this guide in the internship programs list) floating around online that many utilize in their search.

Broad Application Timeline

SPRING

- Research where your ideal places to intern/work
- Update your resume and portfolio
- Network by attending job fairs, campus events, etc.

Applications usually open, start researching more specific

SUMMER

FALL

- opportunities 🕕 💷 🕬
- Prepare application materials
- Continue researching opportunities
- Complete and submit applications
- Conduct interviews
- Evaluate offers
 - $\circ~$ These can lead into the spring

During the application process, expect to send out 100+ applications to land something, especially for internships. We suggest tracking your applications in a personal spreadsheet. This can help you stay motivated and organized throughout the extensive process.

Networking

When you think of networking, you may conjure up images of well-to-do professionals in business attire who traipse around a large conference room seeking to make contacts with other professionals that they have never met before. While there is an element of truth to these kinds of images, it is important to break down what networking is and why it is important to your career as a professional in computing.

What is Networking?

As mentioned before, networking certainly does involve meeting new professionals and forming those connections, however, this is not all there is to networking. Networking also involves building up the professional relationships that you have already.

People who are in your network can include professionals who work in the same industry or field as you do, fellow alumni who attended and graduated from the same university as you, faculty and staff from the same university that you attended, members of professional societies such as ACM and IEEE, supervisors and peers (both current and former), friends and family.

Why is Networking Important?

Networking is important for many reasons, and, in fact, the benefits may be too numerous to list. For this reason, we will list the top five reasons why it is important to network.

- 1. You become more visible, which leads to more job opportunities and may lead you to your dream career.
- 2. You can gain a bevy of different perspectives from your colleagues who come from different backgrounds and work in different industries.
- 3. You can participate in the exchange of ideas between yourself and your colleagues.
- 4. You have the opportunity to receive more career advice and support; likewise, you have a better chance at finding a mentor.
- 5. You can build long-lasting and personal relationships, especially if you make the effort to stay connected with those you have met.

Networking

There is an old adage which says, "It is not about what you know, but who you know" and this adage applies to computing professionals as well. An employer is more likely to hire someone that they know will fit their team because they have built a personal relationship with that person over a faceless applicant and their resume.

If you can network locally or in close proximity markets, be willing to meet up for non-transactional interactions. A casual lunch or coffee targeted at getting to know your contact as well as giving them an opportunity to know you goes a long way. Remember that jobs are about relationships as much as they are about skills.

To someone who has never networked before, it may sound intimidating at first, but like with any skill, the more you practice at something, the better you get at it.

Dos & Don'ts for Networking

Do

- Have confidence and be yourself.
- Practice active listening.
- Be ever curious. Ask tons of questions. Do research. Ask about culture, current initiatives, strategic direction of the company, competition and initiatives to differentiate yourself from your competitors. These show a business awareness outside of just technology. Be ready to correlate their feedback to your experience and skills and how you could help.
- Set objectives of what you want to achieve at each networking event.
- Prepare conversation starters such as "what industry and/or field do you work in?" or "what have you been working on?"
- Follow up with the people that you met after an event.
- Give to others as much as you receive.
- Join professional computing organizations such as ACM or IEEE.
- Have a strong online presence on networking sites such as LinkedIn. Leverage making connections that Computer Science External Advisory Board (EAB) members have in LinkedIn or word of mouth. Do the same for alumni of the college. Make those connections, you don't have to know them but reach out (you already have TTU in common with them).
- Dress professionally and appropriately.

Don't

- Make each conversation entirely about you so that you have the opportunity to learn about different types of jobs and organizations, as well as tips for finding new and better jobs.
- Stand in the corner of a room and expect people to approach you.

Networking

Short-term vs Long-term Networking?

During College

- Invest in your peers Your classmates are not your competition; students at other top-tier schools are. Collaborating on mock interviews and larger multi-person projects will improve your skills and make your resume stronger.
- Avoid an overly competitive mindset students can sometimes be hesitant to help each other with interview prep, this is counterproductive. Helping others will also make you better.
- Get involved in student organizations and/or research This broadens your network to industry professionals and academics. Some of the best insights you gain may not come directly from coursework but from mentorship conversations (e.g., learning about Mechanism vs. Policy from a software architect at National Instruments).

For Industry Professionals

- Be the person others recommend Maintain high standards for yourself, and help others improve. When someone asks, "Who would be an amazing hire?", you want to be the first name that comes to mind.
- Invest in your colleagues Support your peers, give constructive feedback, and be a person people enjoy working with.
- Maintain a professional network Keep track of the best people you've worked with and check in periodically. People are more likely to help you if you don't just contact them when you need something.
- Consider open source If you specialize in a niche skill, contributing to open-source projects is a great way to demonstrate expertise and build professional relationships that could lead to job offers. But it is most helpful if pursued seriously over the long-term to build lasting relationships with other contributors.

Elevator Pitches

An elevator pitch is a brief, persuasive speech that you can use to spark interest in what you do. It's called an "elevator pitch" because it should be short enough to deliver during a quick elevator ride. For computer science students, an elevator pitch is a valuable tool for networking, whether you're at a career fair, a networking event, or even a casual encounter with a potential employer.



Key Components of an Elevator Pitch

- 1. Introduction: Start with a friendly greeting and introduce yourself.
 - a. Example: "Hi, my name is Alex, and I'm a computer science student at Texas Tech University."
- 2. Background: Briefly mention your current status and relevant experience.
 - a. Example: "I'm currently in my junior year, focusing on software development and data science. I've completed internships at XYZ Company and worked on several projects involving machine learning and web development."
- 3. Skills and Achievements: Highlight your key skills and any notable achievements.
 - a. Example: "I have strong programming skills in Python, Java, and JavaScript, and I've developed a web application that helps users track their fitness goals, which has over 1,000 active users."
- 4. Goals: State your career goals or what you're looking for, as well as short-term plans.
 - a. Example: "I'm looking for an internship opportunity where I can apply my skills in software development and contribute to innovative projects."
- 5. Engagement: End with a question or a call to action to keep the conversation going.

a. Example: "Where can I learn more about the projects your team has right now and how someone could prepare to work on a team like yours? Do you have any advice for someone looking to break into the tech industry?"

Elevator Pitches

Tips for a Successful Elevator Pitch

- 1. <u>Be Concise:</u> Keep your pitch to around 30-60 seconds. Focus on the most important points and avoid unnecessary details.
- 2. <u>Tailor Your Pitch:</u> Customize your pitch based on the audience. If you're speaking to a recruiter, emphasize your skills and experience relevant to their company.
- 3. <u>Practice:</u> Rehearse your pitch until it feels natural. Practice in front of a mirror, precord yourself, or get feedback from friends or mentors.
- 4. <u>Be Confident:</u> Deliver your pitch with confidence. Make eye contact, smile, and use a clear, enthusiastic tone.
- 5. <u>Be Authentic:</u> Be genuine and let your personality shine through. Authenticity helps build a connection with your audience.
- 6. <u>Adapt on the Fly:</u> Be prepared to adjust your pitch based on the conversation. Listen to the other person and respond accordingly.
- 7. <u>Follow Up:</u> If the conversation goes well, ask for a business card or connect on LinkedIn to continue the relationship.

Example Elevator Pitch

"Hi, my name is Alex, and I'm a computer science student at Texas Tech University. I'm currently in my junior year, focusing on software development and data science. I've completed internships at XYZ Company and worked on several projects involving machine learning and web development. I have strong programming skills in Python, Java, and JavaScript, and I've developed a web application that helps users track their fitness goals, which has over 1,000 active users. I'm looking for an internship opportunity where I can apply my skills in software development and contribute to innovative projects. I'd love to learn more about the projects your team is working on. Do you have any advice for someone looking to break into the tech industry?"

By following these guidelines and tips, you'll be able to create a compelling elevator pitch that effectively communicates your background, skills, and goals, making a strong impression on potential employers and networking contacts.

Social Media

Your online presence can significantly impact your professional opportunities and personal brand. This goes beyond LinkedIn and includes others like Facebook, Instagram, X, TikTok, etc. While LinkedIn does a great job of keeping things professional, whenever employers are comparing candidates for a role, it is standard practice to search their name to get a better idea of their online personality to gauge their cultural fit at their company.

The following tips are for LinkedIn, at a minimum, but can be used across various social media platforms.

Create a Complete Profile

- Profile Picture: Use a formal photograph that includes just your head and shoulders. It doesn't need to be a professional headshot.
- Appropriate Headline: Craft a headline that reflects your current status, such as "Computer Science Student Seeking Internship" or "X Intern at Y Company."
- Engaging Summary: Write 1-2 short paragraphs summarizing your experience, qualifications, and goals. These paragraphs should serve as your elevator pitch, answering questions like: What are you doing now? What have you done in the past? What do you want to do in the future?
- Experience: Detail your work and project experience as you would on a resume, using strong action verbs, technical language, and relevant keywords. Include metrics like numbers and percentages. Always list a current job to show active LinkedIn use; if applicable, use "Full-Time Student" or "Recent Graduate."
- Education: List the degrees that you have and technical skills that you gained to show active participation in your degree programs. In addition, whether here or in another section, highlight leadership skills, such as team projects that you led and officer positions that you held with relevant accomplishments.
- Skills: List your most relevant technical skills first, such as programming languages (e.g., Python, Java, C++), frameworks (e.g., React, Angular), tools (e.g., Git, Docker), and technologies (e.g., cloud platforms like AWS, Azure). Highlight any specialized skills relevant to your field, such as machine learning, data analysis, cybersecurity, or mobile app development. You can also list any relevant certifications. After listing your technical skills, include important soft skills.
- Accomplishments & Other Sections: Add projects, test scores, scholarships, organizations, awards, community activities to show that you give back and pay it forward, and any other relevant achievements.

Social Media

Additional Profile Tips

- Customize Your URL: Edit your public profile URL to make it resume-friendly.
- Add Multimedia: Include pictures or other media to showcase your projects and work experience. If you add a resume, redact personal information like your address and phone number.
- Open to Opportunities: Indicate on your profile that you're open to new Opportunities.
- Professional Content: Ensure all content you post or share, and reactions are professional, as it all can be seen by your connections and potential employers.
- Profile Viewing Settings: Be aware that LinkedIn notifies others when you view their profile. It is something to keep in mind even though it can aid networking.

Using LinkedIn Effectively

- Connect with Known Contacts: Start by connecting with friends, faculty, staff, recruiters, and anyone you already know.
- Find New Connections: Search for alumni and HR professionals at companies by using queries like "Company Name 'Texas Tech'" or "Company Name Recruiter." Instead of paying for LinkedIn Premium, send personalized connection requests.
- Engage with Your Network: Stay in touch by messaging, liking, and commenting on posts from your connections and companies.
- Job Search: Use the jobs tab to search and apply for job opportunities.

Using GitHub Effectively

- Use consistent naming conventions and file structures
- O- clear, descriptive repository and branch names, logical directories, etc. Detailed README files
 - provide a brief introduction for the project, clear steps for installing and running the project, usage examples, and welcome contributions
- Pin your best projects
 - Regularly update and manage your repositories
 - archive inactive rpositories that are no longer maintained

Resumes, CVs, & Cover Letters

The <u>Texas Tech University Career Center</u> and the <u>Whitacre College of Engineering's Engineering</u> <u>Opportunities Center</u> provide dedicated support to Texas Tech students and alumni.

They provide many valuable resources for crafting your resume, CV, and cover letters. We encourage you to check out all that both resources provide. Their resources can be found in the links below, however they also both hold workshops and individual appointments where they help you with resume critiques, mock interviews, your elevator pitch, and more. In this guide, we're going to focus on how your CS resume might differ from traditional resumes.

There are two things that you should include in your resumes that you do not always see on traditional resumes: Technical Skills and Projects. These are specific areas for you to highlight the programming languages, tools, or technologies for which you are certified or most proficient in, as well as the projects you have completed or might have in progress.

Showcasing your relevant projects is essential in your resume. These projects might include academic projects, personal projects, contributions to open-source software, or notable projects from your previous employment or internship.

When listing your projects, you should aim to provide a concise description of the project that tells the reader what you built, what purpose it served or problem it solved, and how you built it \circ (programming languages used, technologies, number of other developers involved, etc.)

Example: "Developed a machine learning model using Python to predict stock prices based on historical data."

It is also common to include a link to your project portfolio, if you have one, like GitHub.

A CS resume might also include an area that highlights participation in or rankings/awards from hackathons or other coding competitions.



Resumes, CVs, & Cover Letters

Your resume should be tailored to the specific job or internship to which you are applying, ensuring that you fully understand the role, have identified relevant key words, and have prioritized your projects relevant to the role.

Position your resume in terms of the "problem the company needs solved." In other words, if it is a core engineering firm then heavy technical skill showcases are prudent. If the company is more focused on consumer satisfaction, revenue generation, market share growth, etc. (i.e. Financial, Healthcare, etc.) then correlate your experience and skills in a manner that shows how you could contribute to those things.

Using keywords from job descriptions to enhance your resume is a strategic way to make your application stand out. These keywords often include both technical skills, like software proficiency, and soft skills, such as communication or teamwork. Once you've identified these keywords, incorporate them naturally into your resume.

This tailoring shows employers that you have exactly what they would like to have in an applicant and can increase your chances of landing an interview.

Some examples of CS resumes are included at the end of this guide.

TTU Career Center Links

- Professional Document Writing
- Detailed Resume Guide
- <u>Career Assessments</u>

WCOE Engineering Opportunities Center Links

- <u>Career Services Students</u>
- <u>Career Resources</u>
- Engineering Raider Recruit
- <u>Events</u> (workshops, individual appointments, mock interviews, job fair, etc.)



Interviewing

There are several key aspects to consider when you prepare for an interview. First off, you should understand the different components that you might encounter during this process. These include:

Early screening calls via phone call or zoom ight) O

Brief interviews with a recruiter to assess more about your background, skills, and your promised ability to perform well in the position. These calls usually lead to scheduling a full-length interview if you are found to be a good fit.

Technical interviews

These are segments in the interview process that differentiate roles in computer science to other industries where they are less common. The purpose of technical interviews is to assess your practical knowledge, critical thinking skills, and problem-solving knowledge.

The types of tests you will encounter will vary based on the type of role for which you are applying, but usually include coding exercises, technical problem-solving scenarios, and discussions over a specific topic. It is not uncommon to go through multiple rounds of technical interviews during this process. <u>BuiltIn</u> has a beneficial resource for technical interviews that also includes examples and solutions.

Many students don't realize the variety of technical interviews they might face. Below are some examples and the types of problems you might encounter:

- Algorithms & Coding Interviews
 - Found at most companies
 - Typically assessed via HackerRank, LeetCode, CodeSignal, etc.
- Project Deep Dive
 - $\circ~$ Common for both new grads and experienced candidates
 - Evaluates technical depth by discussing past projects
 - Expectations are higher for experienced engineers
- Machine Learning (ML) Coding & Theory
 - Coding challenges (e.g., implementing deep learning layers from scratch)
 - Math-heavy theory questions on ML models
- System Design & ML Design
- Mostly for mid-senior roles (but grad students may see simplified versions)
- Recent graduates may face object-oriented programming (OOP) design questions instead

- System Design & ML Design
 - Mostly for mid-senior roles (but grad students may see simplified versions)
 - Recent graduates may face object-oriented programming (OOP) design questions instead
- Systems Programming
 - Highly role-dependent, could involve:
 - Implementing malloc() from scratch
 - GPU programming
 - Multithreading & concurrency challenges

Interviewing

Behavioral interviews

These might more closely align with interviews that you may have **encountered for other roles**. These interviews are usually focused on your answers to questions gauged **at how you will fit into** a workplace. You may be given example hypothetical situations and be asked how you would navigate them. Preparing for these interviews can be challenging, but using the STAR method can help you structure your responses effectively.

The STAR method is a structured approach to answering behavioral interview questions by breaking down your response into four key components:

- $ho_{
 m e}\,$ Situation: Describe the context within which you performed a task or faced a challenge.
- $sime_{\circ}
 ightarrow$ Task: Explain the actual task or responsibility you had in that situation.
- $5^{\circ}\,$ Action: Detail the specific actions you took to address the task or challenge.
- $^{\circ}\,$ Result: Share the outcomes or results of your actions, highlighting what you achieved or learned.

Using this method ensures that your answers are concise and clear, easy to follow, relevant, and provide structured and impactful responses that demonstrate your skills and experiences effectively. To be as prepared as possible, you should have 5-7 examples/stories that you can use to answer questions.

Example of a STAR Response

Question: "Tell me about a time when you had to work under a tight deadline."

- Situation: "During my final year of college, I was part of a team project for our Software Engineering course. We were tasked with developing a web application, and we had only two weeks to complete it due to a shortened semester."
- Task: "As the team leader, my responsibility was to ensure that we met the deadline while maintaining the quality of our work."
- Action: "I organized daily stand-up meetings to track our progress and address any issues promptly. I also divided the project into smaller tasks and assigned them based on each team member's strengths. Additionally, I implemented a version control system using Git to streamline our collaboration."

Result: "We successfully completed the project on time and received an 'A' grade. The professor praised our efficient teamwork and the application's functionality. This experience taught me the importance of effective communication and time management."

Interviewing



Before your interview(s)

- Review the fundamental concepts to ensure you have a solid understanding of what might be asked
 of you, such as programming languages, algorithms, data structures, and system design.
- For technical interviews it is not enough just to review the fundamental concepts. You also need to be practice applying these concepts.
 - Do deep-dive prep on every topic that you expect to be tested on. There are various online platforms that offer a wide variety of problems for practice. Some popular options platforms are LeetCode and HackerRank.
- Reflect on Your Experiences. Think about your past experiences in internships, projects, coursework, or extracurricular activities. Identify situations where you demonstrated key skills
 such as teamwork, problem-solving, leadership, and adaptability.
- Mock interviews are essential. Conduct a mock interview with the TTU Engineering Opportunities Center or the TTU Career Center. If time is a constraint, you can always do a mock interview with your peers or practice on platforms like interviewing.io.
- Research the company/organization for which you are interviewing. You should have a good understanding of what they do, what their mission and value statements are, and any recent news, developments, or achievements that might be relevant.
 - To the extent possible, try to discover the leadership in the organization, who they are, what they do, as well as their previous experience. LinkedIn is a good source of information for this type of research, as well as the company's own website.
- Prepare your own questions to ask your interviewers. These can be role-specific, about the company culture, and what they like most about their jobs and career at the company.
- Write out detailed answers to all the questions you think a hiring manager might want to ask you.
 The process of writing out these details will help your answers come back to you during your interview and help you communicate your thoughts more effectively.
- While the STAR method provides structure, be prepared to adapt your stories to different questions.
- Stay calm! Get a good night's rest, eat well beforehand, stay positive, and practice techniques for relaxation.

Projects & Technical Skills

Developing projects is essential 1) to make yourself a better software engineer and computer scientist, and 2) to make yourself stand out on your resume and get it shortlisted during the application process.

Listing projects on your resume is also a way to show employers what kinds of interests you have and how they relate back to the role for which you are applying. Be ready to explain your project *outside* the technical boundaries. For example, the business or other impacts (imporved efficiency, increased throughput, measured quality, etc.) show that you can reach outside the box.

Do not copy another person's code or project and pass it off as your own. You will find a plethora of tutorials and guides for various projects on the internet. While these are beneficial for practicing your skills and learning new concepts, they are not meant to be "resume worthy" projects that highlight your problem-solving skills.

Developing Projects

- <u>Identify your interests</u>: Starting a project from scratch can be a daunting task. You do not need to worry about creating a revolutionary piece of technology or developing an entire video game on your own. If you are just starting out, start small and work your way up to more challenging projects. Like we mentioned above, following a project guide is still helpful for learning a new skill and building a foundation, as well as helping to build your confidence. Employers want to see that you are taking initiative to give strong evidence that you are capable, unafraid to go into something new and unfamiliar, and like to learn.
- 2. <u>Do your research:</u> See what similar projects exist and use them as models. Determine what is required for a project before embarking to be sure that you understand what is involved. Is there a new programming language or platform that you need to learn?
- 3. <u>Plan it out:</u> When starting a project, it can be hard to move past the "bigger picture" of the project which can make the starting the project more intimidating. It is helpful to take a moment and outline a plan for development. Break your tasks up into smaller, more manageable pieces. If you are working with a group, tasks can be assigned to different people during planning.
- 4. <u>Development:</u> Start developing the project in small chunks until the entire project is completed.
- 5. <u>The finished project</u>: once you have completed the project, share it with peers and mentors so that you can get some constructive feedback on it. You will also want to upload it to your own portfolio or website. A common platform for portfolios is <u>GitHub</u>. Don't forget to add it to your resume!

Projects & Technical Skills

Developing Your Skills

In college, you navigate your education by learning new things, taking more challenging coursework, and eventually completing your degree. However, you do not stop learning (and growing) at graduation.

In the ever-changing landscape of computer science, you will always be adapting and learning new concepts, skills, and technologies. There are two types of skills that we want to cover in this guide: Technical Skills and Interpersonal Skills (often referred to as Soft Skills).

Consider a minor in an area you are interested in such a business, healthcare, animal science, etc. that would help guide your CS career into an industry that interests you. You will have the same to offer industries outside your minor, but you will have special qualifications for that industry should you interview in it.

<u>Technical Skills</u> for a computer science student encompass a wide range of abilities and knowledge areas that are essential for developing, maintaining, and improving software and systems. These include things like programming languages (Python, Java, C++, etc.) or technologies in which you are interested or proficient in (Artificial Intelligence and Machine Learning, Cybersecurity, Cloud computing, etc.).

You can continue to develop these skills by working on new types of projects, completing online certificate programs, and keeping up with trends in your field. As Texas Tech students, you have access to our <u>Industry Career Certificates</u>. These online certificates are opportunities for you to develop, practice, and demonstrate skills and are offered by industry leaders like IBM, Meta, Amazon, Microsoft, Google, and many more. Many of these certificate options also directly align with Computer Science.

<u>Interpersonal Skills</u> are personal attributes and interpersonal abilities that enable you to interact effectively with others. They complement your technical skills and are crucial for professional success. These include communication and collaboration skills, problem solving, critical thinking, creative thinking skills, time management, leadership skills, and many more.

Many of these soft skills are continuously developed inherently while you work on your projects. When you participate in a hackathon, collaborate on a group project, or contribute code and reviewing others' contributions, you are developing your collaboration/teamwork and communication skills. The very act of developing projects showcases your problem solving, critical thinking, creative thinking skills, time management, and many others.

While soft skills may seem hard to learn, practice is essential. Learning how to get along with others, finding new ways to solve problems, learning how to find relevant ideas for a solution, networking, and sharing in project work with others, can be the best place to learn new and better ways to work and new trends in your chosen career.

Internship Programs from Notable Companies/Organizations *This Hot a complete list.

- <u>Adobe Internships</u>
- <u>Amazon Internship Program</u>
- <u>AMD Internships</u>
- Apple Internship Program
- AT&T Internships
- <u>Boeing Internships</u>
- <u>Cisco Systems</u>
- <u>Dell Internships</u>
- DTE Energy Internships
- <u>Dow Internships</u>
- Federal Internship Portal
- <u>Github Internship Repository</u>
- Haliburton Internships
- <u>Hewlett Packard Internships</u>
- <u>Intel Internships</u>
- IBM Internships
- Los Alamos National Laboratory Internships
- <u>Meta Internships</u>

- Microsoft Internships
- Morgan Stanley Internships
- NASA Internships
- <u>National Security Agency (NSA)</u> <u>Internships</u>
- <u>Netflix Internships</u>
- <u>NVIDIA Internships</u>
- <u>Oak Ridge Nat. Lab. Pathways</u> <u>to Computing Internship</u>
- Oracle Internships
- Palantir Internships
- <u>Raytheon Internships</u>
- <u>Salesforce Internships</u>
- <u>Sandia Nat. Lab. Internships</u>
- <u>Siemens Internships</u>
- <u>Tesla Internships</u>
- <u>Texas Instruments Internships</u>
- <u>Verizon Internships</u>
- Western Digital Internships

Many large companies/organizations have dedicated internship opportunities for college students. Some even have dedicated job opportunities specifically for recent college graduates. If you have a specific place in mind that you want to work for, give them a quick search and check out their website for potential programs like these!

Example Resume #1

First Name Last Name

Email Address • Phone Number Personalized LinkedIn or Portfolio URL (Optional)

EDUCATION

Texas Tech University, Lubbock, Texas Bachelor of Science in Engineering Minor or Concentration if applicable

Graduation Month and Year GPA:

(Add Study Abroad or Community College/other higher education here if applicable. Relevant coursework can also be added if particularly applicable to the field or jobs to which you are applying.)

EXPERIENCE

Company Name, City, State Position Title

Dates, e.g. August 2021 - Present

- Write one-line descriptions of what you did, how you did it, and any results
- Use technical, specific wording which incorporates keywords from job descriptions when possible
- Start each bullet with a strong action verb and quantify using numbers and statistics when possible

Company Name, City, State

Position Title

- Dates, e.g. May August 2021 Experience may include internships, co-ops, full/part-time work, research, and/or projects
- Prioritize college-level and more technical experiences when deciding what to include in your resume
- Organize your experiences in reverse chronological order, i.e. most recent experience first

Company Name, City, State

Position Title

- Check the sample resume on Job Grid for examples on how to write your bullet points
- Expand, add, or remove sections within the page to make the template fit your personal experience
- Visit the Job Grid Resource Library for more information on drafting your resume

INVOLVEMENT

Organization Name Position Title (Leadership Title, "Volunteer", "Active Member")

- As above, list one-line descriptions of what you did in the org, how you did it, and any results
- This section can include activities, student or non-student organizations, volunteer, or service work

Organization Name

Position Title (Leadership Title, "Volunteer", "Active Member")

- Same as above
- Same as above

SKILLS

- **Technical Skills**
 - List your technical skills, e.g. Basic C#, Intermediate AutoCAD, etc.
 - If not listed in experience, consider explaining briefly how you learned/applied the skill
- Certifications, Interests, Honors/Awards, or Languages
 - Use any extra space to list information from one or more of these categories

ENSURE INFO IS ACCURATE; DO NOT GO PAST ONE PAGE; GET A CRITIQUE

*An editable file of this template is available for download on the EOC Career Services website

Dates

Dates

Dates

Example Resume #2

Full Name

email · phone number · link to website/portfolio (if applicable)

Bachelor of Science in Computer Science Texas Tech University, Lubbock, TX	Expected Grad. Month Year
Diploma in Web Development BrainStation, Toronto, ON	July 2020
RELEVANT EXPERIENCE	
Software Engineering Intern - Audio & Music Apps Apple, Cupertino, CA	May 2024 - August 2024
 Implemented Voice Memos features & fixes shipped in iOS 18 & macOS 15. Proactively filed 20 Radars across 8 unique components, catalyzing timely software fixes with a components. 	npany-wide impact.
Software Engineering Intern - Audio & Music Apps Apple, Cupertino, CA	May 2023 - August 2023
 Implemented Voice Memos features & fixes shipped in iOS 17 & macOS 14. Proactively filed 8 Radars across 5 unique components, catalyzing timely software fixes with a component but to the development cycle sans prior iOS development experience, acquiring 2 programmed across 2 prog	oany-wide impact. ming languages & 3 frameworks.
Web Engineer Independent Contractor, Lubbock, TX	December 2019 - May 2023
 Deployed 30+ web solutions for startups, mid-sized businesses, & open-source projects, emphasizi Proposed & developed 5 visual design systems, minimizing source code refactoring & ensuring bran 	ng orthogonality & reusability. d continuity.
Musician, Composer, & Audio Engineer Independent Contractor, Los Angeles, CA Austin, TX Lubbock, TX	September 2007 - May 2023
 Contributed creatively & technically to diverse artistic & commercial projects for independent artists Supported domestic & international tours as a multi-instrumentalist, averaging 120+ shows annually. 	& major global brands.
Principal Software Engineer Staycite, Lubbock, TX	April 2021 - August 2021
 Led the technical development of the business concept, managing the design, development, & testi Collaborated directly with the CEO to align product development with business objectives, shaping 	ng of all software components. key decisions.
Chief Audio Engineer Don Caldwell Recording Studios, Lubbock, TX	July 2010 - June 2012
 Led the audio engineering, mixing, & mastering of 9 LP projects & 20+ EP/single projects. Proposed, installed, & maintained industry-standard hardware & software, expanding the client base 	
RELEVANT SKILLS	
Programming languages: Swift, Objective-C, C, Python, JavaScript, Bash Frameworks: SwiftUl, UlKit, Core Audio, Core Data, Natural Language, Combine Environments: Xcode, Radar, Unix, Git Audio: studio engineering, studio mixing, audio synthesis, Web Audio API, Max/MSP	
PROFESSIONAL DEVELOPMENT	
TensorFlow Developer Professional Certificate, DeepLearning.Al Foundations of Humane Technology, Center for Humane Technology The Complete Python Pro Bootcamp, The App Brewery The Complete Web Dev Bootcamp, The App Brewery	2024 2023 2022 2021
Generative Art & Computational Creativity, Simon Fraser University	2019

RECENT PROJECTS

Svara, (github/portfolio link here)

· A generative music system based on the rules of Hindustani ragas.

· Awarded BrainStation Summer 2020 Web Development Cohort - "Best Capstone"

EDUCATION

Example Resume #3

Full Name

Email | Phone | GitHub Link | LinkedIn Link

EDUCATION

Texas Tech University (TTU) Pursuing a B.S. in Computer Science

GPA Graduation Date

Volunteering: Served the homeless at St. Benedicts at Lubbock and worked with National Honor Society at Lubbock to clean parks and provide donations to Catholic Charities; Volunteered with the Animal Rescue League of El Paso.

RELEVANT SOFTWARE PROJECTS

NPI Kernel Commit Tracker Service and CLI (Internship) (Golang, 5/2024)

- Worked with Golang and Protobufs to create service with a RPC server and client.
- Service uses client to obtain info about branches from git, would communicate this to other clients.
- Service used Protobufs to handle RPC server calls and config files.
- Service was completed with appropriate tests and reviewed, approved, and submitted to Google.

Generative AI for Immersive Stream XR (Internship) (Python, 6/2023)

- Worked with Immersive Stream XR team to create and train generative model API.
- Used HuggingFace and Lora to obtain and train generative models on images.
- Created API which communicated with user through Google Cloud to generate and send images.
- Worked with Google Cloud Kubernetes Support to manage server that ran API.

Discord Moderation and Reverse Image Bot (Group) (Ubuntu Server with Python, 3/2023)

- Worked with Discord.py and various packages to create a Discord Bot which handles moderation.
- Used SauceNAO API and Beautiful Soup to reverse image search and embed posts.
- Deployed through an Ubuntu Server which starts an instance of the bot on startup.
- Completed with four other individuals through Github, multiple branches where managed.

Neuro Evolution of Augmenting Topologies Science Fair (Personal) (C#, 12/2020)

- Three Year project which simulated the Machine Learning of Neuro Evolution of Augmenting Topologies.
- Created a Machine Learning Algorithm using Unity and then the Monogame Framework.
- Simulated Evolution of Neural Networks built from Scratch in Unity; then moved to Cellular Automata.
- Earned First Place trophies at the Regional Science Fair at Texas Tech, including a Recognition Award from Yale.

WORK EXPERIENCE

Google	05/2024 - 08/2024
Software Engineer Intern Full-time Worked with Google's Platforms Team to create a backend service which monitors git branches.	
Worked with a Google Cloud Team on a Research Focused Internship on Generative Models.	
Edylft	01/2023 - 05/2023
Edylft Mentor Part-time	
Mentor for a Cohort of Google Tech Exchange Students, going over topics including data structures	and interviews.
University of Texas at El Paso	05/2022 - 08/2022
New Student Orientation Leader Part-time	
Worked with the Office of New Student Orientation and helped students with registering and carried	supplies on campus.
LEADERSHIP POSITIONS	
President of Association for Computing Machinery	8/2021 - 5/2023
 Organized and Administer Hackathons and Workshops and Managed Community 	
TECHNICAL SKILLS & LANGUAGE PROFICIENCIES	

- Proficient with C, C#, Golang, Python, Java, Javascript, Julia, and Shell Scripting.
- Proficient with Microsoft Excel and capable of graphing and charting with Python, Julia, and R.
- Manages Linux Server as Administrator which upkeeps and handles multiple services.