Software Engineer

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Future software engineers will find this information invaluable. Becoming a software engineer is very similar to becoming a lawyer. There are many of them, competition is fierce, and you seriously have to work to separate yourself from the giant ocean of engineers. My goal is to give you all the information I wish I knew when I started this path. Becoming a well-paid and skilled software engineer is a long but very satisfying road.

Introduction

Many people would say a bachelor's degree in computer science or computer information systems is a mandatory requirement, but I beg to differ. Learning to code isn't something you will master through college. It is entirely possible to be a self-taught engineer and still land jobs at fortune 500 companies. There are so many people with Computer Science degrees that having the degree alone is not enough. Also, Facebook, Twitter, and Google have no degree requirement for their engineers. Skill is worth more than education. If you have a portfolio of remarkably intricate algorithms you designed, you are easily more competitive than anyone with a degree.

If you decide to take the college route, it will make your life a little easier, but it's not the complete picture. Schools like Clemson do an excellent job teaching best practices, syntax with code, and designing complex projects. However, that is only the educational side. Projects are mainly with teams of five, and the code base is very tiny. The industry is entirely different. You have projects that have 100s of team members and massive code bases. The point is, find a project or something you want to build and work on it the entire time in college as your hobby.

Make it ambitious and beyond your skill range. When you complete it, the satisfaction is indescribable, and employers will be notably impressed.

Career Options

It's also worth mentioning that computer science as a field is comprehensive. There are many different paths to take: AI, machine learning, game design, rendering, or writing kernels for windows. More than anything, while in college, I'd recommend finding what your niche is and hone your skill until very few understand as much as you. But, of course, honing your craft is also very dull and tedious. So you want to make sure what you pick is something you love. It's more important to love it than for it to pay well. You will not survive the long hours if you feel like smashing your head every time you sit down to work.

Also, I cannot enforce this enough, the competition is fierce, and there will be a lot of late nights and maybe all-nighters. However, the college workload is very manageable, and it's not too bad. I'd say it should take 50-60% of your time. The rest of that time needs to be drilled into your niche. Your niche is how you break out of the ocean pit of engineers and land a job.

Finding your Niche

It's ok to be clueless about what part of engineering you enjoy. This is the fun part. Just experiment with a ton of different things. If you like creativity, experiment with game design and see if you enjoy writing your games. If you like rigorous logic and math, experiment with machine learning or kernel design. Be creative with your niche. If you fancy music, write a project that converts music into colors and turns your room into a nightclub. Anything you can conceive is a good niche.

Not sure if it's for you

If you are questioning whether becoming a software engineer is the right path, that's part of the process. I thought the same thing when I started. It's also worth mentioning to be patient. Learning to code is a very time-consuming process and notably frustrating. But as with all things difficult, the effort pays off over time. Unfortunately, many people are turned off from becoming software engineers out of fear of tons of math. If you can add, subtract, multiply and divide, that's all you need to know. Luckily, there are only a fraction of career paths that require an in-depth knowledge of math.

But then again, following this career path is not for everyone. Even though the process is frustrating, it should be an enjoyable frustration. It requires a ton of work, and if it's not worth the commitment, then it's probably not the path you were meant to embark on. Becoming a successful software engineer is no joke and is a commitment to consider

What the Industry is Like

Depending on what career path you decide to embark upon, your job may vary from 30-40 hours a week to 80-90 hours a week. Also, many people expect engineers to be coding 9-5, but that's rarely the case. 20% of your day is spent talking with teams and meeting. Another 30% might be reviewing a codebase, making some adjustments, and so forth. And the other 50% of your day might be spent on actual code, but that fluctuates today.

Now I mentioned that the workload fluctuates severely depending on what path you embark on. If you decide to go the route of game design, that is a very demanding workload on tight budgets and deadlines. It's normal to expect 80 hour weeks when the project is weeks from shipping. However, if you work at more established companies such as Facebook or Google, your hours will rarely ever go above 40. Again, it's highly dependent on what you enjoy.

Unexpected Skills

Also, you will be working in a giant team when you enter the industry. Therefore, it's essential to have good communication and people skills. People skills are crucial to nailing job interviews. In addition, people want to make sure your personality fits well with their culture. On top of communication, being a leader is also vital. Speak your opinion and communicate problems; that is how innovation is made.

Conclusion

Becoming a successful software engineer is a challenging task. It takes a lot of long hours and late nights to finally see success. But it's such a vast field that there will never be a day you don't learn something new. My goal was to give you information that I wish I had when I started my journey. I hope this helped shine light on the process and explain if this is the career path with you.