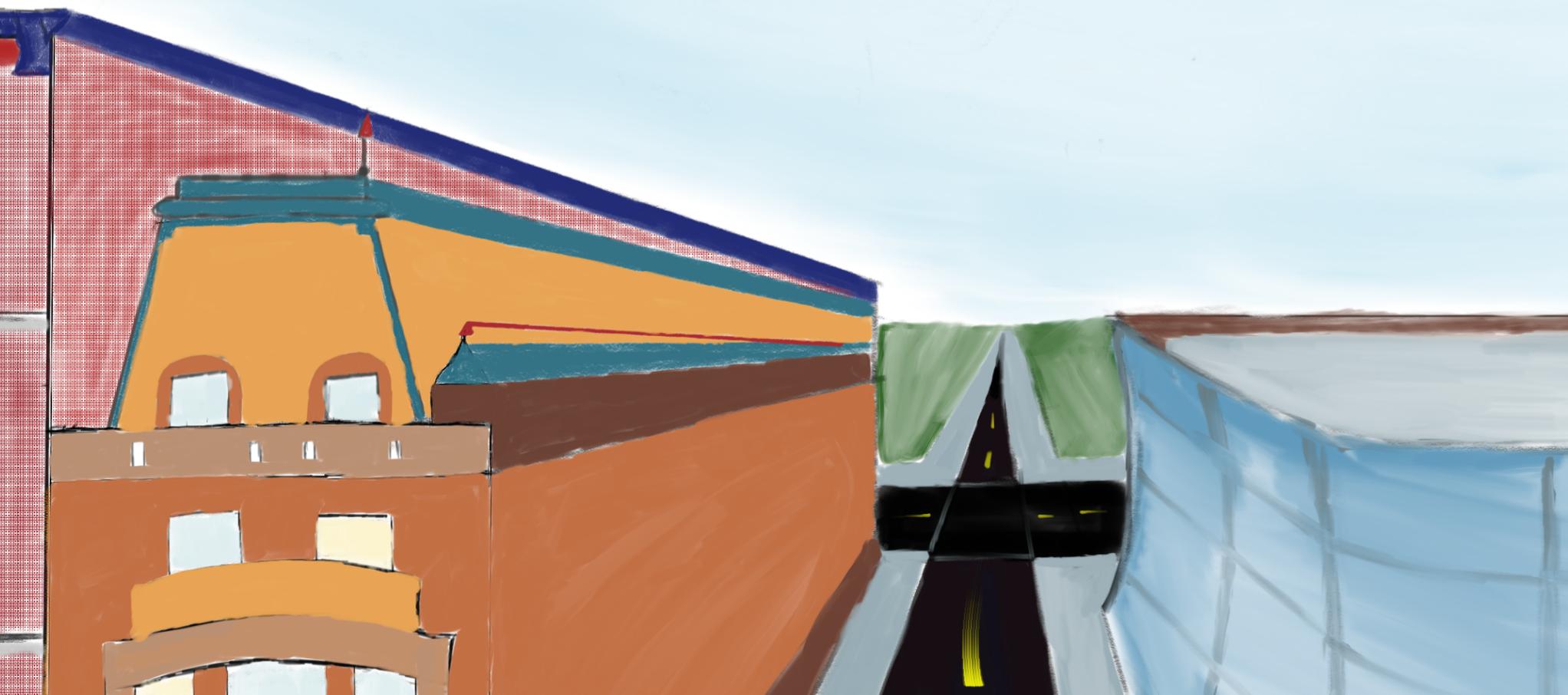


THE COMPLETE SOFTWARE  
ENGINEER'S CAREER GUIDE:  
LAND YOUR FIRST SOFTWARE JOB  
OR INTERNSHIP  
WITH INSIGHTS FROM ENGINEERS  
AT TESLA, GOOGLE, FACEBOOK,  
AND MORE  
BY NIKHIL REDDY





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# INTRODUCTION

## WHY AM I WRITING THIS?

Like it or not, technology companies have become the unexpected arbiters of truth, decency, and ideological exchange in the world. While I do think ours is an incredibly privileged moment — never has it been easier to connect with friends, trade ideas, and share our truths — the nimble and idealistic image of such enterprises has steadily eroded. I admit, these companies are rife with biases that conjure messy prejudices and dysfunctional attitudes towards free speech, gender diversity, and much more.

Do technology companies care that their algorithms have helped create an informational ecosystem that, with its feeds and circular reasonings, has done much to intensify close-mindedness? What does Silicon Valley intend to do about the disparities of race and gender in its workforce? What is the cost of our obsession with the digital devices in our palms —the cost in attention, civility, and everyday consciousness? The triumphs and wonders of our age have been obvious; the answers to such questions are less so.

Indeed, we need to figure out how to make the system work for everyone in the face of technological changes. The notion that technology companies have the potential to be a democratizing force is certainly laudable, but the contradictions inherent in its projects must be contextualized in the historical conditions that both create and are created by it. I call upon those of you reading this book to inspire such change.

We need engineers to focus on the larger questions related to building products that share the wealth better among those who create them — not design a system to spread inequality.

More positively, I don't think this is the end of the mythos of the young, exciting, socially-just technology company. Nor do I think the dispassionate, value-neutral software engineer comprises the bulk of Silicon Valley's workforce. I believe the bright side of such professions is unduly denied the attention it deserves.

The opportunity to work for a great technology company can be nothing short of life changing. It has been my pleasure and privilege to have collaborated with some of the smartest, most thoughtful people in the world, contribute to an ecosystem that privileges merit over hierarchy, and deploy systems habitually used by millions of people. I wrote this book with one purpose — to provide a comprehensive guide for aspiring engineers such that they may have the best possible chance at eliminating their personal barrier to entry. My hope is that upon reading these pages, you are equipped

with the resources to become a contributing engineer at any company, and the ideological tools for solving a whole range of technical and social problems.

In the coming chapters, you will be privy to my lessons learned from meetings with venture capitalists, engineering managers, and brilliant entrepreneurs. I will reference the wisdom of my mentors to address the weighty responsibility that engineers carry today. You will learn to construct a stellar resume, perfect your LinkedIn, and form a fool-proof outreach strategy that will go above and beyond the minimal effort of your peers. We will address technical interviews, proper stress management, and thoughtful responses to behavioral questions.

Together, we can humanize and ultimately dismantle the privileged structures that have previously characterized a cut-and-dry process like engineering recruiting.

## ABOUT ME



Hi there — I'm Nikhil Reddy. I just finished my senior at UC Berkeley, where I studied Electrical Engineering & Computer Science. In July of 2019, I'll be moving to Huntington Beach, CA, to be a software engineer at a startup called Anduril, which was recently cited in Forbes' list of the next billion dollar companies. Before that, I spent the last three summers interning at Tesla Motors as a software developer, where I received personal distinction from the company's VP of Software Engineering.

More importantly, I pride my passion for education and film-making with my YouTube channel, where I publish weekly videos about social and personal growth philosophies that interest me. To date, I've grown an audience of 32,000 subscribers, and it has been a sobering reminder of my larger responsibility to help others in need of advice or mentorship. I've used this growth to spearhead the sales of my my own growth journal, speak at global conferences, and work closely with fashion brands to bring my own apparel to life.

My audience is small, but I've had the chance to interact with thousands of people my age about topics that really matter — depression, anxiety, personal battles, career aspirations, and so much more. Particularly, this has made aware of the privilege and wealth of resource available to me in this industry. I've been so lucky to attend a reputable institution, work at great companies, learn from incredible people, and form life-long relationships with my mentors. The truth, however, is that most of these advantages have nothing to do with intelligence or ambition. They are simply the result of the unearned opportunities that are available atop the looped and windowed summit of privilege.

As such, I've made it a priority of mine to share everything I've learned in technology with as many people as I can. My viewers are so smart and capable, and I hope that by sharing my advice, recruiting tips, and other growth strategies, I can help alleviate at least one barrier to entry they may face. Such experiences inspired me to write this book, and I hope it is in some way helpful for you. Thank you so much for your time, consideration, and patronage.



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# PROLOGUE

## BE A SOCIALLY CONSCIOUS ENGINEER

Engineers, more so than other professionals, hold a virtual monopoly on entire areas of postindustrial life. It would be fair to assume then, that we hold paramount the well-being of the public, and yet we soundlessly ignore the responsibility to do so, lest jeopardizing large salaries and catered lunch. The platforms and services we contribute to have made it clear to anyone with malign intent that it's fine to distort the truth. They sanction the creation of misinformation and manipulate public consciousness.

My sincere ask of you is to not see yourself as just a coder or technical problem solver. On a humanistic level, this disengagement is massively problematic. As the complexity of our socio-technical systems continues to expand, the public is increasingly reliant on engineers to advocate for its privacy and well-being. Your specialized competency does not excuse you from such considerations.

Everyone can, at a minimum, ask whether their acts of invention are doing more harm than good. The trouble in these technocratic spheres of influence is that many ambitious, educated engineers unknowingly excuse themselves from this self-reflection. We are mired in the hyper-rational essentials of problem solving, imagining that simply increasing the efficiency or capabilities of a product equals human betterment. If we only pursue progress in these objective, technical terms, should it even be considered progress?

We must discuss the consequences of our work for specific people, not merely serve as butlers to the interests of privileged young urbanites. Is designing a haptic engine that attempts to hijack more of our attention a good thing? Is automating someone's job always the wisest course of action? Is trying to build the next Facebook really the most valuable way to contribute to society?

I admit these are difficult questions without a binary answer — there are always those who bear more of the burden and those who reap more of the benefit. That said, the polarizing nature of our work should not preclude a moral reflection upon it — in fact, it is the only way that we can soften the borders between people and construct inspiring systems of growth. The line between a beautiful exchange with the alien ideas of others, and a toxic ecosystem that privileges bigotry is thin. Socially-conscious discussions are the medium by which engineers can stay on the right side.

What if we allowed ourselves to talk about morality a bit more? A robust discourse about ethics and the humanity of our work would make it less likely that companies undermine us. By ignoring these discussions, for fear of reprisal or backlash, we further a

technocratic approach to thinking about the human good, and these hyper-analytical processes allow our moral intuitions to become dull. As you embark on your journey to become a great engineer, please keep such considerations at the center of your choices.

## ACCOUNTABILITY BY JASON CHU

Jason is one of my best friends, and hands down, one of the smartest, most compassionate people I know. He just graduated from Yale with a degree in Computer Science, and will be returning to Facebook as a full-time software engineer. I asked him to write an introduction to this book, and I hope you take his brilliant and forward-thinking advice seriously.

We are living in the most interesting era in human history. Demagogues and extremists have disrupted the political landscape, and the dust has barely settled, leaving everybody nervous and wary. Economies around the world are facing an unprecedented burden to create new jobs and maintain growth while dealing with alarming levels of inequality. Entertainment has entered a golden age. Billions of dollars are dedicated to producing blockbusters year after year, and the quality we expect from television shows has never been higher. And we, in our lifetime, will have witnessed some of the all-time greats in basketball, football, soccer, and tennis.

Most importantly, people are changing. Many of us, young and old alike, find cause for concern, though for different reasons. The very fabric of our society is undoubtedly being reshaped, and we are not yet comfortable with its new form. It's no surprise that the catalyst behind the transformation is technology, which has reached incredible heights in the last ten, twenty years. Now, it has become a pervasive presence, an irreplaceable necessity. Because of it, we can communicate with people around the world in seconds and access the largest library we've ever seen. Breakthroughs in medicine and science, which have saved an immeasurable number of lives, would have been impossible.

But not all change has been good. Some of us, the younger generations particularly, are guilty of turning to smartphones and computers to escape from our problems. Just check how long you spend on Instagram or Facebook everyday. We have less face-to-face communication and spend less time outdoors. Our perspective of reality is often distorted, heavily influenced by false or exaggerated information. We are too easily distracted to really think and reflect on our thoughts and habits, and those with malicious intent exploit that.

As a software engineer myself, I believe that technology has still done more good than harm, but the scale has certainly been getting more and more even. Frighteningly even. And with continued advancements in artificial intelligence and virtual reality, the future looms large. That's why anyone who works in the field of technology - designers,

engineers, researchers, executives - needs to be cognizant of the substantial responsibility we have to society. We can't take advantage of the trust placed in us.

I remember when I first started getting serious at programming. I was in the second semester of my freshman year in college, and I was taking a data structures course in C. As I wrote algorithms to solve this problem and that, all the while battling with Valgrind, that's when I discovered how unique computer science is. The subject operates on such an abstract and theoretical plane, I felt like my mind was on a separate wavelength. It was easy for me to get lost in the world of ones and zero. I could build this program or create this website simply because I wanted to. There didn't need to be a reason - following the spirit of innovation was more than enough. But there was a catch: my experience with computer science didn't feel grounded in reality. I knew the real impact technology had on the world, but the things I was doing didn't feel tangible. It reminded me of my childhood.

I grew up in Silicon Valley, and unless you grew up in there, it's almost impossible for you to understand the impact it had on my childhood. I could probably write a whole book on it, but I'll keep things short. Technology embedded itself into my neighborhood. The former headquarters of Apple were right across from my middle school, and Google was less than thirty minutes away. At school, we worked with computers starting as early as fourth grade, where we spent time in the computer lab (donated by Apple) learning how to type. My parents, and many parents of my fellow classmates, were engineers. At home, most of our families had computers and the newest kind of cellphone. As a kid, I thought my experience was normal. Every child in the country must have known their way around a keyboard, and every family must have kept up with the latest technology. Obviously, that was not the case, but it goes to show how I, and many others in the Bay Area, lived in a bubble, cut off from the rest of the world.

On top of that, social justice issues such as gentrification and inequality were not really talked about, and so we became indifferent to them. Discrimination, at least explicit verbal discrimination, didn't frequently occur. And if it did, it was not directed towards me, as Asians were the largest demographic in my city. Compared to other urban areas, crime was uncommon. I seemed to live in an idyllic society where the only worry was earning money.

It was a difficult truth to confront. Not only was I studying a field that felt detached from reality, but I also came from tremendous privilege. If you don't check yourself, that's a dangerous combination and can gradually turn into an insufferable type of arrogance. For me, going to college away from California was invaluable. I learned about the many

political and social problems of my country while making a diverse group of friends. At the same time, I finished my first internship at a big tech company, and then my second. I became concerned about life after college. If life after college was anything like my life during the internships, then I would be building cool things yet not doing much about problems I could no longer ignore.

I'm not saying you have to try and fix the problems you care about. When you work nine or more hours a day, five days a week, you have little leftover time or energy to do anything else. It's easy to fall under a repetitive pattern, and that's OK. What you can't do is let the work consume you. You have to remember that there's more to life. Sure, earning money is important, but it's not more important than being a kind person. That's non-negotiable, the very least you can do. Don't be an arrogant asshole who looks down on blue-collar or service workers. Think about it this way: no one is going to show up to your funeral just because you have a shit ton of money. People will show up if you have had a positive impact on their lives. I believe that if people tried thinking about others a little more, technology would not be under so much heat. Maybe we can't prevent all the data leaks and hacks, but the culture of tech companies wouldn't seem so cold and aloof. Perhaps that's an overly optimistic opinion, but I would like to think that the public would have more faith in us. The future wouldn't seem so precarious.

If you have more ambitious goals of somehow changing the world, then by all means, go for it. My biggest goal in life is to write a novel about the second generation Asian American experience. I postponed my start date at Facebook so I could write, and I plan on writing after work and on the weekends. I may not be a great writer, and my novel could turn out horribly, but I can't remember the last time I was so passionate about something. You might be thinking: why not just quit Facebook and write full-time? Because I'm as guilty as anybody of being afraid to take risks. Taking risks when your life is going smoothly seems dumb, self-destructive even. So I decided to strike a balance. I may not be taking a major risk and leaving my job behind, but that was never in my blood. I'm far too risk-averse. I'm doing my best to make sure I don't fall under the same, repetitive routine. You should do the same, but in your own way.

Best of luck,

Jason