Career Insight for Students

Real-World Stories & Advice from r/AskEngineers

Generated from user discussions regarding career paths, workplace ethics, and engineering reality.

Chapter 1: The Transition (Student to Engineer)

One of my finest moments in my 14 year engineering career.

Posted by u/malachai926

The following is a true story. Such bravery, heroism, and triumph against the most insurmountable odds have rarely been encountered in the vast realm of engineering and were brought about by my hand. I will relate to you my tale, though it unnerves me to the deepest caverns of my soul to have to relive such a harrowing ordeal as this.

For fourteen years I have fulfilled my duty as Manufacturing Engineer, acting as the stalwart defender of my CEO's stock portfolio and pursuing the magnificent promise of a 1% chance of a pat on my back from my boss in exchange for the soul that my employer demands of me. And I have seen much in my travels, but none were as dark and as dire as what befell me this morning.

I was in the midst of performing my duties, transporting a 1-ton machine for repairs and actively conversing with my coworker when I was accosted by one of our manufacturing personnel, placing herself immediately between me and my coworker, severing any possibility of continued conversation, a conversation that surely paled in comparison to the crisis that demanded my attention. With terror in her eyes, a look of dread smeared across her face, and unwavering urgency in her motivations, she spared no efforts utilizing tact or allowing my conversation to continue for so much as a further picosecond. Having so forcefully gained my attention, she then delivered to me the grave news which was sure to portend the coming apocalypse and envelop all of humanity in the deepest, darkest bowels of hell for all of eternity: *her machine would not power up.*

Yes, dear reader, take a moment to realize how close you came to utter calamity and despair, though thankfully you were kept unaware of the crisis thanks to the swift vanquish of a mighty foe. But it is true. A machine was not powering up. It shall render me helpless and terror-stricken in bed this night with renewed nightmares just to speak of it, but in putting this harrowing ordeal to the pen, I pray I may never again relive such horror.

Regardless, in light of the ominous situation I now found myself in, I mustered up all of my courage and made the tortuous journey to the machine, all the while fighting my inner demons screaming at me the horrors that would surely befall all of humanity were I to fail in my quest to turn the machine on. And using every bit of courage and confidence I could muster, I steeled myself against my doubts and pressed on to my objective.

At long last, I arrived at the machine. And the situation was indeed as grim as this manufacturing personnel had described: the machine was off.

I then began what I will always remember as the most magnificent and impressive utilization of my mind that seemingly shattered any limits I previously had mistakenly assumed were the extent of my abilities. No, dear reader, I found myself suddenly recounting all I had learned in my vast engineering career and parsing through the vast depths of my knowledge and experiences in just a brief number of heartbeats, recalling my learnings of quantitative element analysis, of multivariate engineering equations, of the most confounding and complex equipment failures I have ever courageously fought against, and through the permutations and amalgamations and pure-genius-ations that somehow worked their way

through my consciousness in that brief moment, I arrived at an action plan to vanquish the mighty foe that stood before me now: *I would flip the power switch to ON.*

"Stand back, citizens! Lest the task I am about to undertake is successful, it may claim my life and devour my soul for all eternity, but such is my sense of duty to humanity that I now lay down my life in protection of my people!"* Mustering all the courage and resolve that I could, I placed my fingertips on the red knob sitting on the front of the electrical panel, the word "OFF" staring back at me with the seething hatred of a being of pure evil that knows its demise is about to be wrought by the righteous, and with the heroes of old encouraging me from their distant but ever-present realities, I did flip that switch to ON, vanquishing the mighty foe of OFF and restoring power to my machine. Nay, that was not all that was restored... Surely it also restored our future, our hope as a people, our CEO's capital gains. All was right in the world once more.

And though it was an arduous task for me to relive what was surely the blackest moment of my life, it gives me pleasure to know that my act of heroism averted a terrifying fate for my people. May we all find such similar heroism in the darkest of times.

*this part of the story may be embellished slightly.

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C-students: where are your careers now?

Posted by u/lenbedesma

(No text content - Discussion Thread)

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Engineers who got fired from your first job: how did you salvage your career?

Posted by u/VZ6999

Got fired back in June and have applied for 100 jobs since, 2 of which I landed interviews. I only have 4 months of experience.

I'm about to turn 27 in a couple months and don't really want to get a Master's as it took me almost 7 years to graduate (Civil Engineering major). Plus I'd be almost 30 by the time I finish my Master's.

Is my career salvageable?

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What is the job market really like the engineering field and not the storyline fed to you by college careers offices and USnews?

Posted by u/randomperson922

Like everybody who Is are being fed this narrative that majoring in engineering is some kind of ticket to financial freedom. Like when you graduate, you're guaranteed to be starting at 60k-85k etc.

How true is this? Because I knew old cats who are engineers who hated the job market and struggled to even find work. And not only that, they hated the work. Like they hated the cube life. What is it really like out there?

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Did you keep your notebooks from your undergrad engineering degree and did those notes help you in your professional career?

Posted by u/pinchonalizo

(No text content - Discussion Thread)

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NI offering free access to the entire engineering community their entire online course catalog until April 30th. Great opportunity to learn new skills for your career while quarantining

Posted by u/blubbernuggets13

(No text content - Discussion Thread)

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'I don't know' is the best phrase for your career: « I should clarify: I'm not saying you should be proud of your ignorance. Far from it. I'm saying that, when you don't know something, you should admit it. You can't learn something if you think you already know it. »

Posted by u/fchung

(No text content - Discussion Thread)

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Engineers of Reddit, are you a licensed professional engineer or have taken the fundamentals of engineering exam? Has it helped you in your career?

Posted by u/Shizza6

I know I would be late to the party since I graduated about 7 Years ago but my current job has no room for advancement and a fear I won't be able to advance to a better career path. Would it be beneficial to

take the FE?

Edit: Sorry Electronic Engineer

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For Engineering graduates in their field, do you used most of what you learned in the classroom in your career?

Posted by u/JanePoe87

Do mechanical engineering graduates and electrical engineering graduate students end up using most of what they learned in their mechanical engineering courses on their job ? Do you used calculus , linear algebra and differential equations for most of your work tasks?

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I don't want to be an engineer anymore. Now what? Career change advice?

Posted by u/stochastic_dreams

Hey folks, I don't want to be an engineer anymore, and I need help figuring out how to make a career change.

I'm going to keep the identifying information to a minimum because I've got a lot of friends who browse this site. I'm in my 20s, I've got a Bachelor's and Master's degree in engineering from a prestigious school. I was drawn to this stuff when I was younger because I loved science and wanted to work for the space program. My interests changed as I got older but I still enjoyed what I was studying and got very good grades in college. Since graduating I've worked for two companies, both completely different. One was a gigantic Fortune 500 company, straight out of Dilbert, complete with endless rows of cubicles. I thought the company and corporate environment was the source of my discontent, so I quit that and found a new job. Where I work now is a very small high-tech startup. I also interned at a mid-sized firm, and each of these three companies were in completely different industries, so I feel like I've seen a representative cross-section of the engineering world.

I've fallen completely out of love with engineering. Nothing about it excites me anymore, and it's far from being my "passion", in the college-admissions-essay sense of the word. I look at older engineers and ask myself if I want to be like them in 10 or 15 years, and the answer is always, "hell no!" I don't find the work interesting and don't see any options or career moves within engineering that would excite me. Many of the subjects I studied in school were fascinating, but the actual day-to-day work of engineering is very dull to me. I don't believe it's just because I'm a younger engineer and thus lower on the totem pole; I've worked with many middle-aged engineers who basically did the same work as me despite their seniority. It's not as if I was given the boring work no one else wanted, in my current job and last job I've been leading teams and I've been in positions of significant responsibility.

My problem is that I have no idea how I can make a major career change after I've invested so much blood, sweat, and tears in engineering. I feel like it would be very difficult to switch to something else with my educational and work background. I'd really like to avoid going back to college, to pursue an

MBA for example, because I'm not sure what that would accomplish and it would be a major financial cost. I really feel like I have to get out of this and try something else, because I can't see myself doing this for the rest of my life. I just have no idea how to go about this.

The only thing I feel really passionate about is writing. I've been writing fiction (like, actual original stories, not anime fan-fiction) for about a year, I set aside time to write every single day. I haven't submitted anything to be published yet, but I really enjoy it and dream about becoming a published author. I'd love to pursue this full time, but I feel like it will take a few years to polish my skills to the point I can be published, and even then, it may not be a viable source of income for a long time, assuming I'm even successful.

I realize that this is really #firstworldproblems. I'm employed in a well-paying job with healthcare, just based on that I'm better off than a lot of people out there. I'm not asking for pity or claiming to be worse off than anyone else, I just feel a lot of discontent and uncertainty about my future and I'm wondering if anyone else has gone through something similar. What have you done to change your career and take a radically different path? Has anyone else ever decided in their early twenties that what they went to school for wasn't what they wanted to do with their life? What other career options do I have with an engineering degree? Any advice is greatly appreciated.

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If you're in weapons development, how do you deal with moral issues in your career?

Posted by u/peatear

I'm an undergrad in EE and I recently heard a classmate talking about how she wants to specifically go into weapons development. That really struck a cord with me. Why the hell would anyone go into a career so that their creation can kill humans more efficiently?

For me, I can't imagine working towards that kind of goal. But I know that places like Raytheon pays very well, so I don't blame anyone going into that field.

How do you deal with moral issues in your careers? Or if you were offered a high paying job developing weapons, would you take it? How would you justify your decision?

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Chapter 2: Expectations vs. Reality

I believe work from home has done immeasurable harm for young engineers careers

Posted by u/Millsy1

I will preface this by saying that I am a Civil Engineering Technologist. I'm a project manager for a road building/ underground utility construction company. I deal with about a dozen engineering consulting companies on a regular basis. Normally a select few, however this year we have been lucky enough to get on some fairly major provincial government highway projects.

These government projects "Alberta Transportation", used to be what we would look at as a project we would need to dot our i's and cross our t's. "Oh it's an AT project? They are going to hold us to the letter on the specs, better make sure we don't miss anything in the tender!"

This year? It's has been the exact opposite. I have -never- found more design flaws or major missed items on projects as I have this year. But it's not just limited to the big projects. I have had quantities missed by orders of magnitudes. On one project alone, we bid $3M. I have found at least $1M in additional quantities.

And these are -BASIC- quantity mistakes. Things like stripping a ditch that is 650m long. And 1m ditch bottom, 1m deep on average, with 3:1 side slopes. They put 850m2 in for stripping of topsoil.

I have spent weeks of my time reviewing design files in Autocad to find out issues with designs. All stamped and supposedly reviewed. Of the 6 major projects we have this year, 4 of them have design issues that affect over 15% of the cost of the project. None of these have been the result of changes in the field. All were very obvious in the original design.

Why do I think that "work from home" is a significant cause of a lot of these issues? Because most of these projects are being design by engineers with under 5 years experience, and spending the last two years at home on their computers. They have lost out on something I believe is key.

The random interaction with other engineers.

When I was working for an engineering consulting firm (a very large one at the time), I put my nose in everything. If someone was talking about a project they were working on, I would ask "Hey can I help?".

Or maybe I would walk into the office of a mentor or someone I had become friends with just to chat.

Inevitably the questions of "what are you working on?" would come up. And of course if I started talking about what I was doing, you would always either get some great advice on how to do something faster, or where to find a specification I did not know about.

But you would also get little comments of "oh, did you remember about 'X' restriction?" or "Oh that design might not be the best option here, you seem to have forgotten about 'Y' "

It's just a lot of things that don't happen when every interaction is on the phone or in text, and then only with the people truly involved in your projects.

Between working from home, and the mass retiring of baby boomers, I'm worried about more critical projects.

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Chapter 3: Career Strategy & Growth

Young Engineers: do not trust AI at its word.

Posted by u/CancelCultAntifaLol

This week, I was designing a safety gate for a piece of equipment which can surely kill someone. I'm not well educated on guarding standards and we currently don't have a person internal to the company who is an expert.

I plugged the information into ChatGPT and asked it to provide the standards for height, clearances, etc. It did a deep dive, provided tables and citations, etc. It was extremely convincing.

The problem? The numbers didn't pass the gut check. I did a deeper dive, which took a few hours identifying ANSI standards and finding the correct information. Turns out, what ChatGPT recommended would have been against ANSI standards and extremely dangerous.

While it was clear in my circumstance, I'm sure there's a lot of grey-er areas where it sounds convincing.

When it comes to Engineering, stick to your fundamentals. Don't take AI's information at face value. It can literally kill someone, significantly damage your company's reputation, significantly hurt your career, etc.

Edit: wow this blew up, and I'm getting tons of comments with criticism over even considering AI in the first place. To add more detail, I decided to give AI a spin before researching the ANSI standards for gating (which is where a "responsible" engineer would look for direction). There's an insane amount of hype towards using AI in industry, and a lot of skepticism. This is a message of warning because, let's say I was new and didn't know enough to look up ANSI standards? It would be disastrous.

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Engineers who pursued careers outside of engineering, what do you do?

Posted by u/cmac926

I am completing my masters of Civil Eng at U of T and have also worked in the industry. I am not completely sold on being an engineer my whole life. I am looking for some insight of people who have expanded past the realm of engineering. Thanks!

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Chapter 5: General Discussions & Advice

What are some of the most niche/specific engineering roles you have encountered in your career?

Posted by u/ChristmasKrunk

I always enjoy hearing about jobs I never knew existed or rarely thought about - one not so niche example was an engineer I met who handled the underwater construction of massive pipelines from a container-ship style boat.

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Why do people in the UK not know what engineering is?

Posted by u/hpxvzhjfgb

After accepting that software development jobs are impossible to get now, I have recently been looking into engineering jobs and qualifications to see whether it's actually possible to get into the field (I am not asking for career advice), and my first observation is that nobody seems to know what engineering is.

People think engineering means things like operating machines in a factory, installing equipment on a building, performing maintenance and repairs, assembling things, etc. Any time I have tried to look for engineering jobs, these are the only things that come up. Well, these, and even less engineering-related things like "sales engineer", "tech support engineer", etc.

A while ago I had an appointment with the national careers service, who are supposed to provide career advice, guidance, etc. and they didn't know what engineering was either. I asked about engineering, and just got information about welding, forklift driving, and machine operating.

There's an organisation near me that supposedly provides engineer training, but even they don't seem to know what engineering is. All the courses on their website are things like forklift driving, welding, machine operating, factory safety, power tool usage etc. and there's no actual engineering anywhere.

Why is it like this? Is this just a UK thing or is it like this in the US and other places too?

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Engineers, what do you wish you knew about the field before you committed to it as your career?

Posted by u/lamejorleche

(No text content - Discussion Thread)

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My friend showed me this and I figured everyone here should see it, The Engineering Career Spectrum.

Posted by u/BGSO

(No text content - Discussion Thread)

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I built this engineering career day display about dams and reservoirs. I thought this sub might find it interesting. (x-post /r/DIY)

Posted by u/gradyh

(No text content - Discussion Thread)

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Engineers of Reddit, what is the best technical achievement you've had in your career field?

Posted by u/californianative

(No text content - Discussion Thread)

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The proudest moment of my engineering career: the day I helped make a woman cry

Posted by u/drj1990

(No text content - Discussion Thread)

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