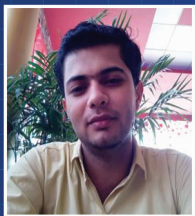


This book is written to provide engineering students and aspiring candidates with relevant information, tricks, tactics, and strategies to optimally achieve their goals. For the students targeting employment in the engineering sector, this book also discusses how to publish a research paper, copyright a computer software, and the entire process of filing a patent in India.

It also mentions optimal steps for candidates planning to go into non-engineering focussed employment such as public sector services, academics, and business administration.

One of the purposes of this book is to make candidates question their thoughts and help them strategise on developing a plan to achieve their end goals.



Ravin Kumar is a curious person blessed to see life as an artist, engineer, researcher, inventor, economist, poet, mathematician, hacker, game developer, and author.

Some of his contributions are mentioned here: a computer language, computer ransomware (and its antivirus), a theorem in Pure Mathematics, addictive auction theory in Theoretical Economics, Mathematical Developments in the Simulation Hypothesis in Physics, cutting edge novel research work in the field of Natural Language Processing, Computer Vision, Deep Learning, a novel algorithm in Quantum Computing, Cyclic scheduling algorithm in Operating Systems, Modified counting sort in Algorithms, and some Patented Inventions, with 50+ software projects and repositories on GitHub, and working experience in product-focused startups in the field of Deep Learning, Machine Learning, Computer Vision, and Natural Language Processing. Along with this, he has done some paintings and related work in the field of Arts, some poetries and is the author of the book "The Engineer's Plan". All these experiences have given him a broader view of life and help understand the world better.

Bachelor of Technology in Computer Science and Engineering, during his graduation (2013-2017), he explored various fields of Computer Sciences to feed his ongoing curiosity and started his career in the field of Artificial Intelligence, Deep Learning in 2017, and since then, he is consistently working in this domain.

His project of experiencing ten different life paths started in August 2013 and got completed on October 31, 2021. The details regarding his project can be found on the link: <https://mr-ravin.github.io>

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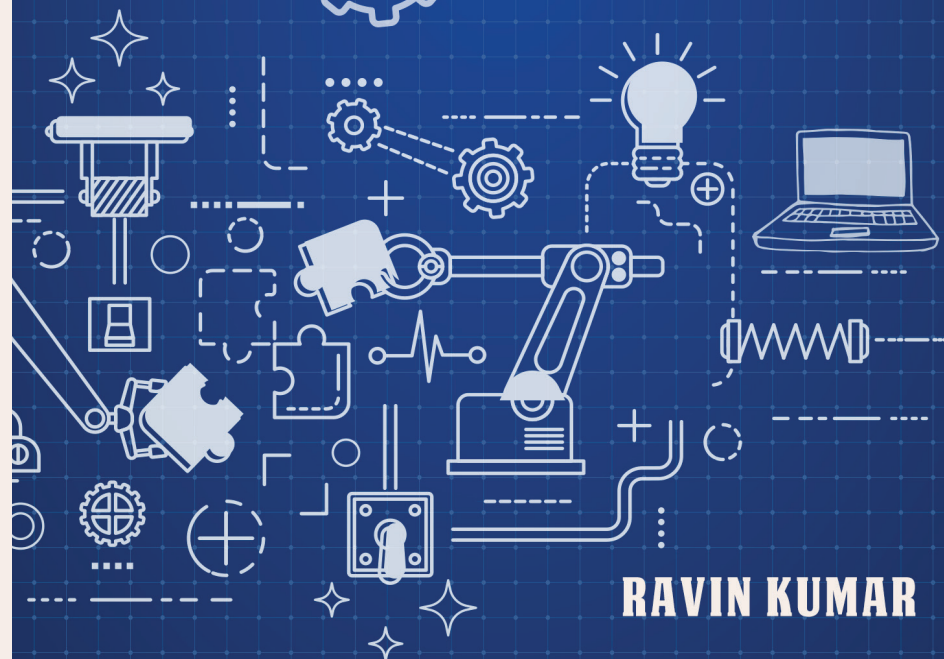


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ENGINEERING

THE ENGINEER'S PLAN



RAVIN KUMAR

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DEDICATION

This book is dedicated to
my mother Smt. Anuradha,
my little sister Vishu, and my dear wife
Pooja, for their never-ending support
and belief.

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I am grateful for how things have played out, and it looks like even the universe wanted this book to be written. I am also thankful to my friends Harsh and Shubham for their support in making this book a class apart.

PREFACE

The objective of this book is to provide relevant information, tricks, and tactics for engineering students. It discusses the optimal steps a student should take to achieve his/her goals.

This book is written in a manner that candidates who are targeting for employment in the engineering or non-engineering sector, both will find the content of this book useful in their journey. It also discusses steps one should take if he/she is targeting post-graduation or will be looking for opportunities in the government sector.

This book is the result of the author's experiment of experiencing ten different life paths; he calls this experiment the "Ten Lives Challenge." The author has tried his best to provide optimal steps for a diverse group of engineering students, each having different dreams, desires, and end-goals but are unfortunately practising the same college curriculum.

TIME AND MONEY

Human beings have always been curious about time. Some humans had even attempted to conquer it but failed. While some with money are still funding research works focussed on stopping or reversing the ageing process. These humans are trying all these things because they know that time is far more valuable than money. Being a Time Billionaire is far more important than being a Paper Billionaire with less time. This is because, with more time, one can acquire skills to gather money, build status, get fame, or simply enjoy life.

Money, on the other hand, is just a means that humans have mutually agreed to use for transferring the value of their efforts across domains in society.

Another interesting way of looking at money is as a tool to freeze the current time and efforts for future use. This frozen time and effort can then be passed on to the next generation, collected to enhance one's standard of living, or used to attract other humans to contribute their skills and time to achieve one's goal.

At a young age, one should focus on how to efficiently utilise their time. Everyday efforts of acquiring knowledge, building a skill, investing money etc., do compound over time. When one is young, and under normal circumstances, he/she is already a time-billionaire, irrespective of the financial status in the society.

I hope that now it is clear why one should manage their time. Now, let me explain a method which I have found helpful to effectively utilise time. The technique is to create a virtual clock with 24 slots such that its

1st slot keeps track of 1st to 15th January, the second one keeps track of 16th to 31st January, the 3rd one is for 1st to 14th February, the fourth one is for 15th to February end, and similarly, the 24th one is for 16th to 31st December.

Slot 1	1st Jan - 15th Jan	Slot 2	16th Jan - 31st Jan
Slot 3	1st Feb - 15th Feb	Slot 4	16th Feb - 28th Feb
Slot 5	1st Mar - 15th Mar	Slot 6	16th Mar - 31st Mar
Slot 7	1st Apr - 15th Apr	Slot 8	16th Apr - 30th Apr
Slot 9	1st May - 15th May	Slot 10	16th May - 31st May
Slot 11	1st Jun - 15th Jun	Slot 12	16th Jun - 30th Jun
Slot 13	1st Jul - 15th Jul	Slot 14	16th Jul - 31st Jul
Slot 15	1st Aug - 15th Aug	Slot 16	16th Aug - 31st Aug
Slot 17	1st Sep - 15th Sep	Slot 18	16th Sep - 30th Sep
Slot 19	1st Oct - 15th Oct	Slot 20	16th Oct - 31st Oct
Slot 21	1st Nov - 15th Nov	Slot 22	16th Nov - 30th Nov
Slot 23	1st Dec - 15th Dec	Slot 24	16th Dec - 31st Dec

Now, assign tasks for all these 24 slots to keep track of the progress for the complete human year.

As the performance increases, a person can try to increase the number of cycles in this virtual clock. One can use a virtual clock with two cycles having a total of 48 slots.

Over time, one should aim to achieve utilising a virtual clock having each slot mapped to one hour. In this manner, anyone can slowly but consistently work on increasing their efficiency by mapping their virtual clock to the real world's clock.

After discussing this system to keep track of our time, let us further understand the relationship between time and money.

In this world, every work has a financial value associated with it. The financial value of a work can be calculated by multiplying the economic value by the amount of time for which the work was performed.

Money (i.e., currency) = Economic value x Time

The economic value is determined by the economic zone providing the money for the efforts performed by the human. The concept of economic zones is a very interesting way of looking at this world from a financial perspective. We will discuss more about economic zones in the coming chapters.

For now, let us discuss how one can freeze time and then pass it on. Assume a situation where the parents worked in an economic zone, and based on the economic value of their skill set and the duration of their work, they received some money. When parents provide money to their children, they are actually adding more time to the child's life. This is because the child has received this money without utilising his/her time or using his/her time to first obtain a skill set to later use to acquire this money. Instead, the child can now use his/her time to enjoy childhood and get better opportunities to acquire a quality skill set with the help of the money received from his/her parents. One such example is the school fee.

Generally, parents who are better in the money aspect of life provide their child better growth opportunities, whereas their counterparts struggle to provide even the basic necessities like food, shelter, and finer healthcare.

Although one should know that better opportunities do not ensure success in future, they just increase the chances. A student in the top school may not be interested in acquiring the knowledge and will just waste the parent's money.

In the modern era, the internet is the best school where all the necessary quality knowledge is available for almost free. The only requirement is having an interest in the subjects and caring less about fancy degrees, certificates, or ranks. Even if one looks back at the lives of the masters from various fields — Leonardo da Vinci, Isaac Newton, Nikola Tesla, William Shakespeare, Albert Einstein, Amadeus Mozart — they all were focused on understanding and mastering the subjects, rather than trying to get highest marks. Let me put it this way: Do you know who the class topper in which Albert Einstein himself studied was? Well, don't waste your time searching for the answer because the reality is that no one cares about that class topper today. More about education will be discussed in the third chapter.

Hard work is one of the most misused words, people in the middle or lower economic classes often get it confused with the term "work hard". Working hard means working for a longer duration whose economic value is lower, but hard work means working which requires expertise, has demand, and thus, has higher economic value. The advantage of hard work is that one can gather more money even after working for less duration, and the disadvantage of working hard is that even with a longer duration, one will still struggle with the money aspects of life.

Construction workers do physically demanding work that needs extended hours and often are not even

provided with proper safety at their workplace. But, on the other hand, an architect may design the building, sitting in an air-conditioned room and bill the customer higher than the construction workers. The architect is able to do this because he/she is doing the hard work, i.e., deciding what the final construction will look like and making sure that it is pleasant to the eye. Another example is the difference between a cook and a chef of a restaurant; a cook makes food for the customer's hunger, while a chef makes food for the customer's taste.

I hope now the difference between hard work and working hard is clear. Often what separates hard work from working hard is that hard work requires specialised knowledge or understanding that is high in demand and low in supply. Meanwhile, working hard requires a skill set that is high in supply and low in demand for that economic zone. As a rule of thumb, there will always be more work that requires work-hard than hard-work; because this is how the economy is designed.

Fortunately, one can move from the work-hard mode to the hard-work mode by acquiring a skill set that is high in demand and low in supply. Also, if one stops to improve their skill sets, they might slowly start to move from the hard-work to the work-hard mode. This shifting happens when people in the work-hard mode move to the hard-work mode. It increases the skill set supply, thus decreasing the demand for that skill in their economic zone.

Let me ask one simple question, why does someone go to school? To elaborate further, why do parents send their kids to school, pay the high school fee, and even try their best to send their kids to college, knowing very well that colleges are expensive.

Parents do work-hard or hard-work to earn money, and then they spend a significant amount of it on their kid's education. They do it because they believe that after getting educated, their kid would acquire knowledge whose economic value would be much higher than the money spent. They, as parents, can then feel proud of raising an amazing kid, which is also one of their duties.

Please note that here the economic values are not just related to financials, but also refers to excellence in the fields which, in turn, improves the quality of life in their economic zone such as being an outstanding scientist, teacher, artist, musician, writer, etc.

Consider a hypothetical situation where a deadly virus outbreak happens in the world, and the scientists and engineers of an economic zone successfully develop a vaccine for this virus. Obviously, that economic zone will have an unfair advantage over the rest. It would attract people with higher financial and skill sets. Hence, as a result, their economy will thrive. All this happened not because of the money the scientists or engineers were making but because of the skill set they possessed. In this case, their skill set is of higher economic value than their earnings. People in that zone would be able to receive vaccines sooner, able to afford them at lower prices, leading to sooner re-opening of the schools, factories, and the whole economy of that zone.

So, one goes to school and gives his/her time and parents money to the school in order to get knowledge whose economic value is high. But in the case of one going to a cinema hall to watch a movie, one needs to pay money, give his/her time to watch it, and they will probably also buy popcorn and cold drinks. Isn't it a terrible transaction for the customer? There are also

good quality movies that can genuinely add value to one's life, but the quantity of such movies released every year is minimal.

Now let's take an example of sports. Instead of playing their favourite sports on the field, people often just watch the matches on their tv or smartphones, having pizza, burgers, French fries, and cold drinks. This is a sad reality of today's world. Instead of doing the physical activity themselves, people just sit on the couch, watching others play the game while they enjoy their fast food and become fat!!! The problem here is not about watching the game but about not playing it. The players get all the physical and financial benefits and social recognition, while the viewers get nothing.

One should always keep their physical fitness in check as there is no way known to us to extend our lifespan by just using money. Healthy food and a good lifestyle are the keys to living a quality life. Also, don't get tricked by advertisements into buying food, drinks, and snacks that harm the human body, and some even have non-recoverable side effects.

For a more balanced life, one should take care of the physical as well as the mental fitness. Think about it, what's the point of doing hard-work or working-hard if one will give all of the life earnings to the hospitals?

ECONOMIC ZONES

Our world can be seen as a collection of multiple economic zones. Sometimes, even a whole country can be present inside a single economic zone, while in other cases, it might also happen that a country contains multiple economic zones within its boundaries.

Economic zones are areas with different market needs or having different demand and supply requirements. Those demands may be due to cultural, regional, geographical, or even economical viability. For example, geographical regions where the fishes are consumed more are largely located near the water bodies — oceans, seas, etc. — and slowly, over time, the economics and human habits gave rise to a culture and established customs of the locals.

When it comes to determining the amount of money one would get for their work depends not just on the work duration but also on the economic zone from where that money will be collected.

Understanding economic zones is very important, especially when it comes to deciding the field of graduation. To better understand this, let's take an example: One person by birth is highly skilled in Baseball but is born in India; similarly, let's assume another person who is highly skilled in Cricket but is born in the USA. Both will suffer on an economic scale as Baseball is not a popular sport in India, and Cricket is not popular in the USA. So, if they want to increase their economic value, either they would have to switch to a sport with higher popularity in their current

economic zone, or they have to move to an economic zone where popularity for their skilled sport is high. Another way is to create a market for the acquired skill set in their current economic zone.

This concept of economic zones can also be found in an ancient story: An old man on his deathbed calls his son and gives him a ring made of stone. The old man asked his son to check the price of his stone ring. His son went to the market and showed it to the very first person and asked what could be the price of this ring? The other person laughed and said, "It's just an ordinary stone ring. Anyone can make this." After hearing this, the son returned home and told his father about how that person was laughing at him and said that it was worthless. The old man requested his son go to the market again and ask for someone who knew about the rings. This time the son went directly to the jewellery shop, and there he got surprised when the jeweller said his ring was worth 21 gold coins due to the rarity of the stone used in the ring. The son got filled with joy, and when he came back, he narrated everything to his father. The old man, with a little smile on his face, asked his son to go to the market and look for a specialist who could value the ring better. Although the son was surprised to hear this, he agreed and went to the antique shop. When he gave that ring to the shop owner, the owner looked happy and puzzled and asked, "How did you find this antique ring? It once belonged to a very powerful king in the past, and it is priceless." After hearing this, the son quickly took the ring without uttering a word and returned home. He told the whole incident to his father and eagerly waited for his father's response. The father said, "The right places and right

people make the difference.” He then went to sleep. The son was also happy that he had learnt his lesson from the journey of a worthless ring to become a priceless one.

The same reasoning is applicable when selecting the skills to master and selecting the branch of engineering. When selecting a branch or field of study, research properly on the skill set which one's economic zone have a high demand for, and in case the skill set one likes to master is not in demand in their current economic zone, then they should ideally pursue their area of interest and move to the economic zone where that skill set is in higher demand as it will be more fulfilling in the long run. The problem often arises when one acquires the skill set which is not in demand or would not be in demand in the future in their economic zone, and that person is also unwilling to move to other economic zones having a high demand for that acquired skill set.

In case the candidate chooses to move to another economic zone, whether to select the new economic zone within their own country or in some other country, we have left that decision to the reader's own understanding.

For a college, it is in their favour if they get full candidates for all of the available seats in their engineering branches. But the reality is that for the same level of effort a candidate would put in, few branches will be more rewarding than others. It will happen simply because of the high demand for some skills than others in that economic zone.

One might easily find people with degrees in not so popular engineering branches ending up working as a salesperson in a private company or in a bank. They

could have gotten that same job by doing a less expensive course with less time duration to complete than going for a 4-year engineering program, only to work in a field that has not much to do with engineering.

One can also target to acquire skills that are demanding in higher economic zones and then try to get a remote job. As it would increase the money, one would be earning without increasing their living expenses.

These days there is a concept of digital nomads where individuals acquire skill sets that allow them to work remotely, and then they take a task from higher economic zones while travelling to the lower economic zones. Not all lower economic zones have law and order issues or bad hygienic conditions. So, if travelling, select areas with better law-order situations.

Many economic zones are blessed by nature, some have beautiful mountains while others have beaches or ice, and some even have deserts, and certainly, most of them have internet. One can find vlogs on the internet about digital nomads.

When applying for an engineering program, one should also give a thought to what they really want to achieve in life? Some people, even after getting expensive fancy degrees, fail to get even employment of 30,000 INR per month. Sadly, if they had decided just not to go for a degree and had invested their money in real estate — let's say buying four shops and renting them out — they would have easily made 30,000 INR per month and still had all the time in their clock.

The modern privatised education system is a business sector, and it is indeed a very profitable one. The banks that provide education loans to the student to enter their degree course can't provide insurance on that degree

that the student will get employment using that degree. While, the college that provides the education can't simply guarantee that students will get employment if they get marks above a certain threshold, even if that student is a university topper.

Ironically, one can get a loan from the bank for a scooter and can also get insurance on even a previously owned, second-hand scooter. The reason is that having a degree is just an indicator that the knowledge was provided to the candidate, but not a surety to determine how much of that knowledge the candidate was really focussing on or the faculty was skilled enough. This is especially true in the technology sector.

One of the reasons why mechanical, electrical, electronics, or even civil engineering students in India are entering the software industry these days (2022-2023) as frontend developers is due to its high demand in India and lower entry barrier. Many such candidates, after completing a few online courses, and building a decent project portfolio, start to apply for the job. When thinking logically, one can easily realise what these candidates are actually doing. They are spending around four years of their lives and obviously some good amount of money only to learn a skill set that they will later abandon. What a waste of human efforts! In the long run, most of these candidates will end up being software envelopers than software developers. It will happen not because those people are unable to create something novel, but for them, software development is just a way to obtain financial stability.

Ideally, candidates unwilling to move to other economic zones should focus on getting an engineering branch that is popular in their current economic zone

rather than getting into a popular engineering college with a not-so-popular engineering branch. The other option is to create a market in their economic zones for their possessed skill set.

In this rapidly changing world, one should also check the relevance of their engineering branch in the coming future. The reason is that from the time of enrolment to getting an engineering degree, it will take around four years, and a lot can change in that timeframe.

Other than getting into courses with high market needs, one can also amplify their reach in the job market by acquiring other skills that improve their chances. For example, if most of the work in a sector depends on demand in other economic zones, learning skills to understand and interact with those other economic zones would be of great help in both professional and personal experiences like learning their language, knowing more about their culture, etc.

Even after providing all this information to the candidate, the best method is the same: acquire a skill set that resonates with one's head and heart. If their economic zone does not reward their skills, move to the economic zone with a good law and order situation where that skill has a higher value.

If one is doing something completely crazy with a pretty good risk of failure, they should build at least one passive income source for financial safety. This passive income can then take care of the basic needs in their current economic zone for times when things are not working out well for them.

PLAN YOUR DEGREE

Every school has three types of candidates; first, those who choose a work based on their interest, irrespective of the money they would get from it. Second, those who are willing to work that pays more, irrespective if it interests them or not, and finally those who simply don't do anything.

Two of those candidates are fortunate; the first ones are the candidates who can take care of their financial needs by getting involved in work that interests them. The second ones are the people who have taken care of their financial needs, either with the ancestral money, passive income, or some business, and can focus their whole time on exploring things and doing what interests them.

Planning an engineering degree is an art that relies mainly on the end goal of the candidate. One should ask these questions in the first semester of their degree: "What do I want to do? Be self-employed or work for someone else?" "Do I want a government job or a private job?" "Do I want to study further?" What stream should I choose if I want to study further? Continue the same stream or switch to a completely different one?"

The sooner one finds answers to these questions, the sooner they can start developing their strategy, which should provide optimal results and guide them to avoid doing something not required to achieve their end goal.

If a candidate does not have any goal to achieve or a dream to fulfil, instead of wasting time, they should focus on making money. In the future, when he/she

finds their goal, they can use that money to accelerate the process of achieving his/her goal.

Now, let's discuss the candidates planning for a government job. These candidates should ideally first check the percentage criteria required to appear in those examinations. Along with this, they should also check if there is any merit involved based on the graduation percentage.

Based on the answers to the above questions, candidates should focus on the engineering degree to get just enough percentage and keep preparing for their government recruitment. Choose easy engineering projects in the final year of engineering, and don't get into writing research papers or anything that is outside the requirement of the engineering examination.

One should not make things unnecessarily painful and miserable for themselves. One such example can be: If the targeted government job doesn't require the skills taught in the engineering program, understanding lab experiments will not be of much relevance to the candidate.

Some engineering candidates plan to study further but in different domains, such as MBA. They should focus more on their entrance examination and study engineering just enough to fulfil the cut-off criteria for the desired domain.

Now, here comes a question: Why should they not build awesome projects like their fellow classmates and instead focus on getting higher percentages? That's because their end goals are different. None of them would like to be in the position where they have a higher level of experimental knowledge of engineering but have a lower percentage in their bachelor's program.

This lower percentage can adversely affect their future plans that rely on percentage criteria.

The ideal situation is that candidates opt for engineering because they really want to be an engineer, build stuff, invent something new, do research, improve technology, and build things to make our society more efficient. And those candidates should have higher experimental, practical knowledge than just having theoretical information with no practical understanding.

The reality is that the majority of candidates opt for engineering not because they want to be an engineer in their favourite field, but they want a degree as a backup plan to hide their insecurities. Ever heard of a student in India choosing the popular Indian Institute of Technology (IIT) with an engineering stream they totally have no clue about, rather than choosing the stream they actually want to study, that too in any non-IIT college?

These candidates waste a lot of time learning something they are never going to use in the future. This also slows down the engineering related development of the economic zones where those candidates study. In reality, most candidates focus not on understanding engineering concepts but on getting high marks to use their academic scores to either switch to a different stream, pursue MBA, or apply for government jobs to become IAS, IPS, etc.

The candidates whose end goal requires them to have a graduation degree to appear in an exam, and their end goal doesn't require engineering skills, how about choosing other graduate programs like BA, B.Com., or B.Sc.? It will save time as it takes only three years to complete the course compared to four years

of engineering. The advantage is that candidates in BA, B.Com., or even in B.Sc., have more time on their hands than an engineering student to focus on their government or other examinations.

Although there is one thing these candidates should contribute to the world before switching their domain and abandoning their engineering skills. This contribution can be in the form of an invention, an open-source project, a high-quality research paper, organising free workshops for school students so that this domain switching and wastage of acquired skill sets can be minimised.

A candidate should always take optimal steps to reach the goal. This can be understood by a story told to most of us in our early schooling—the story of a turtle and rabbit. This story tells how a turtle, with his continuous hard work and discipline, defeated a rabbit in the race. But most humans fail to realise that the turtle won that race because of the rabbit's fault, not because of his own skills. If the turtle had put his full efforts to win the race, and so does the rabbit, it is obvious that the rabbit would've won the race. In life, it's not a smart choice to be a turtle where your success is completely dependent on your opponent's failure. The turtle could have asked the rabbit for a race that favours its own skills, such as a race to reach the ocean's bottom or even a race to take one round of the whole planet. But sadly, the turtle didn't even analyse his skills to leverage them in real life, while the inaction made the rabbit a loser in the race, which was already in its favour. But, the possibility that a rabbit winning the same race next time if he puts full effort is almost absolute, while the turtle's success will still depend on the rabbit's failure.

Ideally, if one wants to achieve greatness and be remembered even after they are gone from this world, it makes sense to pursue what they are really interested in. That is, take engineering if you want to be an engineer or an entrepreneur running an engineering-focused company.

There is also a section of candidates who, even after getting engineering degrees, will apply for some bank or government jobs, which they were eligible for without any graduation/degree. How about applying for that same job after their senior secondary? I do not understand what's wrong with these people. Why did they ever enter into an engineering program and waste four years of their life and money on acquiring a skill set that is of no use to attain their goals?

How about pursuing BBA or B.Com., if a candidate knows beforehand that he/she will join the family business that has nothing to do with technology? Why pursue engineering only to take care of balance sheets, profit and loss statements, and so on?

One should not hard-work or work-hard to self-sabotage their own dreams. But, sadly, due to improper planning, a large number of candidates end up doing the same. One of the purposes of this book is to make candidates question their thoughts and help them strategise on developing a plan to achieve their end goals. They unnecessarily make their paths harder, and by the time they realise it, it's already too late.

In my opinion, if someone acquires an engineering skill set and never utilises it to build something or to contribute to that field, economic zone, or society before abandoning it should be considered as a kind of intellectual crime.

Now let us talk about candidates who are in engineering because they really love it!!! And they would either enter the workforce after their graduation or go for post-graduation or even Ph.D. in a similar domain.

Let's first discuss candidates aiming to be a professor or work in academics. They should read about the university point system. One needs to acquire certain points on a scale of 1 to 10 to become eligible to teach in an engineering college in India. Although this threshold value keeps on changing; in some colleges and universities, it is 80% in B.Tech. and/or M.Tech., while in other universities, it is even 90% or above. So, based on the percentage required for teaching in academics, one should target to perform well in the examinations and have a good, hands-on experience on their laboratory-related works.

During the degree program or even the schooling, a student should be aware of the predatory EdTech companies. Such companies make money by taking advantage of a student's fear of missing out. These companies sell convenience in the name of knowledge. Instead of buying courses from these companies, candidates should look for similar study materials available for free on the internet.

For a large number of people acquiring skills is often a slow process and requires patience. But sadly, many students try to avoid this slow process and try shortcuts only to get trapped by the predatory EdTech and FinTech companies. It is very common to find a candidate ending up taking loans to sign up for the heavily overpriced courses of such predatory companies. The funny part is that most of these companies claiming to turn their candidates into geniuses do have brand

ambassadors who have achieved peanuts when it comes to research, invention, and other aspects of engineering. There is also a belief among elders that the ability to differentiate between an actor and a hero during childhood is an early sign of intellectual maturity.

FOR ENGINEERS

This chapter is focused on the candidates who have opted for engineering and will be looking for engineering-related employment opportunities in future. This chapter also discusses how a student from an average engineering college with good planning and execution can easily surpass the top students from the top universities.

With the beginning of the first semester, the race for placement starts, which is a pretty common belief in engineering colleges. From the first semester itself, candidates focus on getting high marks, and as a result, give more importance to theory over practical knowledge. This is because every candidate has heard from their seniors that colleges, by default, provide 90–95% of the laboratory marks, provided a candidate doesn't do something very stupid. With this revelation, a pathetic race for obtaining the highest marks in the theoretical paper of engineering programs does begin.

But how about completely eliminating this pathetic race and start creating an unfair advantage to progress in life? Dedication, hard-work, and executing the below-discussed plans can make it attainable for true engineers.

In the first year of engineering, the candidates should start with creating a list of assets that their college has or can provide. This list may include laboratory equipment, successful alumni, experienced faculty, government research grants, student activity clubs, etc.

The first semester of engineering is all about exploration. It is a shift from the theoretical way of

schooling to a more experimentation and laboratory focused study. One should experiment and test whatever engineering-focused things they learn as much as possible.

Imagine a cardiologist surgeon who has never performed any surgery; would you visit that surgeon in case of a medical emergency? Probably no. Similarly, an engineer is a person who creates, designs, builds, or invents something useful instead of just having theoretical knowledge with a good-looking mark sheet.

For the first two years, a candidate should focus more on studying in solitude than in a group. This way, a candidate can understand things faster. There is also a saying that goes something like, "If you want to go fast, go alone; but if you want to go far, go together."

From the third year onwards, one should look out for other candidates to collaborate and build something efficient, interesting, novel, and much more useful than they would have built on their own.

From the percentage point of view, one should make an effort just enough that their overall percentage is between 75–80%. Now, some might think, why not 85, or 90, or why not be a topper?

Because a candidate with 75–80% will have a good-looking mark sheet to appear in the interviews and will still have enough time to do awesome engineering projects, internships, research works to clear those interviews! Remember, we are focused on taking optimal steps to achieve our goal, not to look for unnecessary headaches.

Companies these days are not interested in engineering candidates with just university gold medals or fancy degrees. What they are really looking for is engineering skills. But, to appear in the interviews of the top-notch

companies, especially at the beginning of the career, an engineering degree does help. Although it's not a must to have a degree in the tech sector, it is good to have.

Take a case where an HR of a tech company is biased towards the thought "People with degrees know better" and simply selects the candidates with engineering degrees for the technical interview. Although, in this case, if a candidate has some exceptional portfolio, then not having a degree will not be an issue, but generally, it takes a longer time to make such a portfolio.

So, in short, maintaining a 75–80% throughout the engineering program with no backlogs is a safe bet.

Remember this rule, one has to be average in academics to be a topper in life! Because only this person has the true freedom to do experiments and understand what is actually written in the engineering books.

In the third year of engineering, the candidate should start reading more about the sector they want to work in, and after that, start learning those skills, even if it is outside their engineering syllabus.

Based on the sector the candidates want to work in, they should develop an interesting project, publish their research work in reputed journals like Springer or ACM, or the best of all, have a granted patent for any invention/innovation in that particular sector.

Unlike degrees, patents do have monetary value, they can be sold, licensed, and, obviously, they give a power-up to the candidate's resume. The awesome part is that candidates with patented inventions can call themselves an inventor!

Okay, after this revelation, now let's discuss more about how to proceed at the beginning of the third year. So, the logic goes like this: Patents have the greatest

influence, then comes a research paper (assuming it's not something like $E=MC^2$), followed by an engineering project (again assuming that project isn't something like Bitcoin), and at last comes engineering competitions.

Engineering contests won outside one's own college have a higher reputation than the contest won from one's own college.

Among patents, research papers, projects, and contests, patents are expensive to obtain. For first time inventors, filing and maintaining the patent requires assistance from a patent attorney, costing a hefty amount of money. Patents will be discussed in more detail in the next chapter. Let's discuss the research papers and how they are different from survey papers.

A research paper can be about a novel method, function, mechanism, or a newly discovered phenomenon. Apart from this, a research paper can also be about improvised versions of existing methods or about their newly found use cases. While a survey paper is just a compilation of all the relevant research papers published on a topic into a single paper. Hence, a survey paper contains no original research work. A good strategy is that candidates should first conduct quality research and then write a paper about it instead of focusing on writing a research paper just for the sake of publication.

Candidates aiming to write a quality research paper should register themselves on orcid.org, a website from where one can get an Orcid number. An Orcid is a unique number allocated to an author so that confusion related to multiple authors having the same name can be avoided. A good practice is to always mention the Orcid number in the research paper before submitting it to a conference or journal.

For beginners, starting with a conference makes more sense, as most of the journals do check the background of the author before even considering reading their submitted research paper.

Someone writing a paper for the first time will find it difficult to even get a proper response from the journal. One more thing to note is that journals have tougher criteria for acceptance than a conference of the same publisher.

A typical flow of submitting the paper to a conference goes like this: Publisher announces the details of the conference along with the paper template, page limit, date of the conference along with the allowed themes for the papers etc. Candidates then select a conference that matches the theme of their research paper. After submitting the paper, the candidates should wait patiently for the response. The response generally contains a plagiarism report along with the feedback from the three reviewers.

Each paper needs to have plagiarism below the acceptable plagiarism score in order for the paper to get accepted for the conference. If at least two out of the three reviewers accept the paper having a low plagiarism score, then the author receives an official invitation for presenting their paper along with the schedule of the conference.

Sometimes, it also happens that reviewers suggest some changes. If it happens, the reviewers allow the author to resubmit their revised paper within a timeframe. After re-reviewing the paper, if the reviewers found the paper satisfactory, the paper gets accepted for presentation in the conference.

Once the research paper is accepted, the author has to pay the registration fee and sign a copyright transfer

certificate. Generally, if a candidate has a college faculty as one of the co-authors, the college does take care of the registration fee. Otherwise, a candidate has to pay roughly 5,000 INR to 9,000 INR per accepted research paper.

After registering for the conference, authors are required to prepare a PowerPoint presentation of their research work. In the conference, the author is provided anywhere between five to fifteen minutes to present their research work. One important thing to remember is that this PowerPoint presentation should contain a page with all the references mentioned in their research paper. Ideally, most of those references should be from the last 2 – 3 years from good publications. Using recent references, make sure that the research work is based on recent developments in the field.

After the paper's presentation, the author receives two certificates from the conference committee. One certificate is for participation, and the other is for the presentation of the research paper. Depending on the publisher, the presented paper can further go for another plagiarism check, and at the last stage, the publication house provides an "Author Proof" to the candidate on the registered email address(es).

An "Author Proof" is the research paper that is in the final stage of publication. The purpose of "Author Proof" is that the author can re-look for alignments, spelling errors, or any other type of minor edits that are needed to be done in the paper and let the publisher know before the paper gets published. One important thing to note is that in the "Author Proof", only minor changes are allowed.

Once the author approves their "Author Proof", the publisher generates a Digital Object Identifier (DOI

Number) for the research paper. A DOI number is a unique number allocated to each research paper.

After a DOI number is generated, the publishing house makes the research paper available online, and the research paper is officially published. After publication, the publisher often sends a free copy of the research paper to the author via email. Some conferences or journals provide research papers to download for free called Open Access, while others require a payment to download the paper.

The publication of the conference is called Conference Proceedings. Sometimes those research papers are published in a book, and sometimes a few quality papers from those proceedings are recommended to the journals for consideration by the conference committee.

In case conference papers are sent to journals, and the journal finds the research work worthy of publication, the journal does send an email to the author. In such an email, the editor of the journal generally requests the author to either provide permission to publish the research paper or ask the author to write an extended research paper for publication in their journal.

Once the first research paper is published, the author can create a profile on Google Scholar and researchgate.net and add details about their published research paper.

The only difference between the conference and journal, apart from difficulty level, is that journals do not need a PowerPoint presentation on the submitted research work. The submission of a quality research paper itself is sufficient for the journals.

Ideally, a candidate should try to write a research paper as a single author and then publish it with reputed publication houses like Springer and ACM. This makes

it easier for the person who reviews the candidate's resume in future to determine their contribution.

If one finds it difficult to do the research work on their own, then they should form a team of two candidates. One thing to remember is that survey papers are not research papers. A good publication house ideally takes around one year to publish the accepted research papers.

In case it is still tough for the candidates to write a research paper, they should seek help from their faculty. But, before reaching out to a faculty, the candidates should make sure that the faculty is skilled in the subject, willing to make significant contributions, and has time to contribute to the research. Because the last thing a candidate wants is to get stuck with a faculty as an author who has contributed nothing but wants credit in the paper.

In the case of multiple authors, the “first author” is someone who contributed the highest, then comes the “second author”, then the “third author”, and so on. Also, in a research paper, the sequence of authors should follow the same logic, “first author” is named first, followed by the “second author”, and so on.

One should also keep in mind that if a candidate submits the paper in the third year, it's likely that the paper will get published around the placement time of their fourth year.

Now let's discuss the final year engineering projects. An engineering project is all about experimental knowledge, and it should work!

Developing projects in a sector and technology where one will be looking for employment is smarter. This is also simpler than filing patents or writing research papers. Gather a team of candidates targeting

other areas of technology required in the project. Do a team discussion on what can be built with the collective efforts that are useful, efficient, interesting, and then start building it.

In the modern era, there are many platforms where one can showcase their projects, such as a demonstration video that can be published on YouTube. In case the team decides to make their project open source, they can create its GitHub repository with proper documentation, with links to the developer's GitHub profile.

In case the team first wants to protect the intellectual property of the computer software then, they should apply for a copyright on their computer code before releasing it online.

Regarding the engineering-related competitions, one should prioritise contests organised by other colleges with similar or higher rankings. It is because it doesn't matter which college one studies, it is obvious that college will be biased to help their candidates more than they deserve. That's why during placement, the recruiters don't pay much attention to certificates issued by the candidate's own college.

In the literal sense, an international contest organised by a reputable company is valued more than contests organised by a reputed college. The certificate received from a highly reputed college is worth more than the certificate received from one's own college. While the certificate received from a low reputed college is a waste of time and effort.

In the education system, many awards, rewards and accomplishments come with an expiry date. After a few years of a candidate's placement, his/her college or company-issued certificates does not interest anyone

anymore. Those certificates become somewhat irrelevant as one grows in their career. But things such as patents and research papers always catch people's eye. That's why the priority of a candidate should be to have, if not a granted patent, then at least one research paper published in a reputed conference or journal.

INTELLECTUAL PROPERTY

Intellectual property is a type of novel, intangible property created by human(s) using their creativity. One needs to first select the type of intellectual property protection (patent, copyright, or trademark) which is suitable for their creation. Each intellectual property right has set requirements that the creation should qualify in order to file it for obtaining the type of intellectual property protection.

According to the Indian Patent Office's website, Intellectual Property Rights (IP rights) are a set of exclusive rights (might be a territorial right) protected by laws that are accorded to creators or persons over their creations for a certain time period.

This chapter discusses the types of intellectual properties relevant from the engineering point of view, namely copyrights and patents.

In Computer Science, one can file a copyright on their valuable computer program. One thing to remember is that copyright does not mean others cannot create similar computer programs. What copyright actually means is that others cannot create a computer program having the exact same source code and compiled codes like that of the already copyrighted computer program.

According to the US Copyright Office, for works created by individual authors on or after January 1 1978, copyright protection begins at the moment of creation and lasts for a period of 70 years (varies in other countries) after the author's death. A thing to note here is that the author should have unalterable proof

to verify the date of creation. But, it is still better to register it with the copyright office because the copyright certificate will be of great help to resolve the ownership and authorship claims.

For an Indian citizen, the application for copyrighting a computer program in India costs around 550 INR (as in 2022) and can be filed on the official website of the copyright office, i.e., <https://copyright.gov.in>

After filling the copyright application form (i.e., FORM-XIV) using the website of the copyright office, one then needs to make the online payment.

Once the payment for the copyright application is made, the copyright office then provides two documents, i.e., a payment slip and a filled copyright form.

After carefully checking all the details and signing the copyright form, one needs to send it to the address mentioned in the form along with the payment slip and two DVDs or CDs.

These DVDs or CDs will contain at least two directories, namely “source_code” and “compiled_code”. The “source_code” directory should contain all the source code files, and the “compiled_code” directory should contain all the compiled files. One can also create other directories like “manual” to contain a short software manual.

It will be of great help to the copyright office if one mentions the diary number on the DVDs and then sends it to the postal service. As in case of misplacement of DVDs in the office, this written diary number will be of great help for the officials to track the DVDs.

Once these items are sent to the Copyright Office, the applicant can then check the status of their application on the website using the issued diary number.

After the copyright is granted, the applicant is issued a Register of Copyrights (i.e., ROC Number), also known as the Registration Certificate. The copyright office then sends the copyright certificate either via email or post along with one of the previously received DVDs to the applicant.

Now, let us discuss patents in detail and the steps one needs to follow to apply for a patent on their invention.

The World Intellectual Property Organization (WIPO) explains a patent as an exclusive right granted for an invention, which is a product or a process that provides, in general, a new way of doing something or offers a new technical solution to a problem.

Patent rights are territorial in nature. For example, if a patent is granted only in India, then it can not be enforced in countries where it is not granted. To get a patent, technical information about the invention must be disclosed to the public in a patent application.

A novel invention has an industrial use case, is non-obvious, and does not belong to the prohibited category, then it can be applied for the patent. Each country has a set of defined categories in which obtaining a patent is prohibited. One such category in the majority of countries is a “Perpetual Motion Machine”.

In 2022, a computer program per se does not qualify for filing a patent in India and hence, can only be filed for copyright.

Interestingly, patents do also have different categories for different types of inventions. A “Design Patent” is applied for novel designs like the shape of a cell phone, designing on a cloth, footwear designs, jewellery design etc. On the other hand, a “Utility Patent” is applied for novel machines, systems, mechanisms incorporated in a

system or machine. From the engineering point of view, one should target to file a utility patent rather than a design patent.

When it comes to applying for patents, there are two terms one should understand very well, i.e., assignee and inventor. The assignee owns the intellectual property rights, and the term inventor refers to the natural human(s) who invented the novel thing mentioned in the patent application. An important thing to note is that an assignee can be an individual, a group of individuals, or even a company, while an inventor can only be an individual human being or a group of people.

The Indian patent office almost every week publishes its journal on the official website: <https://ipindia.gov.in/> and is available under the publications section.

A patent is a territorial right, meaning that if the patent is granted in India, then the rights of the assignee/applicant (i.e., the owner of patent rights) is only protected in India. For protection in other countries, one ideally has to file either a PCT application or a similar application mentioning the list of countries where the assignees want to protect the rights. It needs to be done within one year from the date of first filing the application to the patent office.

After filing the PCT application, patent offices of the selected country examine the application, and after the examination, it might happen that all of the patent offices grant, or a few of the patent offices, or none of the patent offices grant the application.

When filing a PCT, one should keep in mind that the higher the number of countries one wants to enforce the patent application, the higher is the fee for filing and maintaining that patent. PCT application is an

effective way of filing patent applications in multiple countries. Still, the cost is higher for people belonging to developing or under-developed nations.

Once a patent is granted, the assignee retains exclusive rights to develop, build, and sell its invention for a defined period of time. Its assignee also gets the right to sue others in case of a patent infringement. In most countries, this time period is 20 years from the date of first filing the application. If others want to use that invention during that time period, they need to either buy the complete patent (exclusive licensing) for that territory or pay some fee as royalty to the assignee to use that intellectual property.

After the completion of 20 years, all the patented privileges expire. Once the patent is expired, anyone can use the invention without requiring permission from its assignees.

Even after a patent is granted in a country, there are still some conditions in which a country can take away the patent rights from the assignee. Assume a situation where a company got a patent granted in a country on their pharmaceutical drug for treating a disease, and at that time, only that particular drug is known as a cure for that disease. If a large number of citizens of that country get that disease and their lives are at risk. In this situation, the country can simply make that patent rights public, so all the manufacturers can develop the cure at a lower cost to save lives. Because the main idea of providing a patent right was to protect the inventor's rights, and promote scientific, engineering, technological developments, but not at the cost of the lives of their citizens. It is known as compulsory licensing.

Unlike a research paper or software copyright, filing a patent application does require a good understanding of legal vocabulary. Due to the need for legal vocabulary, it is more likely that one contacts an IP Firm for filing their first patent.

From the financial point of view, filing a patent even in one's own country is more expensive than obtaining software copyright or publishing a research paper.

Now the stage is set to simplify the two very important terms of the patent world, and they are Provisional Application and Non-provisional Application. Sometimes what happens is that the applicant is in the process of completing the invention, and they want to file the application thinking that if the delay happens, someone else might come up with this invention and file it before them. In that case, the inventor can file a provision application describing some important key points of the invention while simultaneously developing a complete working model of that invention. Once the working model of the invention is developed, the applicant then submits a complete application describing all the details of the invention in a document called Non-Provisional Application. In this case, the date of filing is considered the date on which the provisional application was filed. This date is known as the priority date. Also, the complete specification needs to be filed within a year of filing the provisional application, or otherwise, the provisional application is abandoned.

After filing the non-provisional patent application, if one wishes, he can proceed to file for PCT application within one year from the date of filing the provisional application. In case the applicant has directly filed the non-provisional application without any provisional

application, the date of non-provisional application filing is considered as the “date of filing”. A patent application that has been filed can be called “patent pending” or “patent applied for” prior to the patent being granted or application abandoned.

The process of patent grant follows the following steps mentioned below.

- **Prior Art Search:** In this step, the patent attorney provides a list of patent applications published to date, which has something similar to the applicant's patent application. It helps the applicant and inventor to clearly distinguish their invention from already existing knowledge known to the public.
- **Drafting:** In this process, the patent attorney with the inventors create a draft of the invention containing all the details of its working, construction etc., with the help of textual data and pictorial representations.
- **Filing:** After the inventor approves the draft, the patent attorney then submits the patent application (non-provisional or provisional) to the patent office. The patent office then generates an application number for the submission.
- **Publication:** In this step, the patent office publishes the application in its patent journal available on their website, so if someone has an objection to the submitted application, they can file an objection to the patent office.
- **Examination:** If no objection is received in the set time frame, the patent office then examines the patent application.

1. If the application gets accepted, the Patent Certificate is issued.
2. Else, the patent office provides a First Examination Report (FER) containing details about the objections from the patent office. Within a time frame, the applicants have to prepare a FER Response with the help of its patent attorney, clearing all the doubts and objections of the examiner. If the patent office is satisfied with the FER response, the patent certificate gets issued.

There are separate forms open for certain people or sections of the society with which one can speed up the process of the publication called Early Publication and examination called Expedited Examination.

In 2022, such forms can be filled for the patents where one of the assignees is an Indian citizen (female), or the only assignee is a startup recognised under the Startup India program, etc. One should check the allowed sections for such privileges as from time to time, this rule keeps on changing.

Rules regarding patents and copyrights filing might get amended in future, so the application format might get modified or some more forms are introduced for filing. Any such change might also slightly change the overall filing cost, but the filing process more or less would remain similar.

In the tables below, I have provided a rough estimate for filing a patent application in India by Indian citizens using an IP Firm (in 2022).

Table 1: From prior art to filing a patent application

S.no	Particulars	Govt. Fee	IP Firm's Fee
1	Prior Art Search	–	15,000 INR
2	Drafting [Specification + Claims]	–	25,000 INR
3	Filing Application to the Patent Office	1,600 INR	15,000 INR

Table 2: Post Filing Procedures

S.no	Particulars	Govt. Fee	IP Firm's Fee
1	Statement and Undertaking	–	2,500 INR
2	Request for Publication	2,500 INR	6,000 INR
3	Request for Examination OR Request for Expedited Examination	4,000 INR OR 8,000 INR	8,000 INR
4	FER Response	–	30,000 INR
5	Attending hearing, and reply to hearing notice (if FER Response is not accepted)	–	35,000 INR
6	Post patent grant filings	–	6,000 INR

Patents are expensive to file, but if one is willing to share the credits with the college faculties, the candidate might get the full amount from the college. Although in such cases, the college demands to be the assignee of the patent. Such an arrangement can be useful in situations where a candidate is not looking to build a company with that patent. It is the best move when the probability of getting a royalty from the patent is low. One disadvantage is that college might not go for early publication, and the expedited examination, which will delay the overall patent grant process, sometimes gets delayed by 3–5 years or even more.

Once the patent is granted, the applicant can use their intellectual property to start a startup, collect royalty, or sell the complete patent.

Another advantage of patents and research papers is that they are like medals one can wear throughout their lifespan. It is unlike winning a coding contest or being a university topper because every year, someone else will take up that place. But the person who invents or develops a theorem, does research work, or does something similar will always remain the only person who did it.

The sad thing about those who treat life as a race is that by the time they realise its adverse effects, it's already too late. Those who participate in a race have to run faster enough so that people behind them don't crush them. The sad part is that even if they win the race, there will be another race waiting for them. It is unlikely that the same person would win all the races. On the other hand, smart people try to make their own path. Smart people don't choose to participate in such races because they know that even if they win the rat race, they will still remain a rat waiting for another race.

PLACEMENTS

In the final year of engineering, the candidates should have a decent social media presence and have projects and research mentioned in their online portfolio. There are many free to use specialised websites and tools that one can use to increase the online visibility of their professional works.

During the final year, many companies approach engineering colleges for conducting their recruitments.

The candidate should try to avoid companies that offer employment agreements with 1–2 year bonds attached. Most of such companies are mass recruitment companies looking for below-average engineering and good communication skills. Even if a candidate joins that mass recruitment company, the chances of candidate's growth is less because the tasks are non-challenging and are repetitive. One thing to never forget is that “money is important, but freedom is more important than any amount of money”. In case the college is not able to provide better opportunities, a candidate should look for opportunities either in the startup sector or outside the college placement cell to avoid getting trapped by the mass recruitment companies.

When looking for jobs in the startups, please check the history of the founders and how much funding has the company raised so far. And how many senior engineers are in that startup? Does that startup already have a product in the market? How big is the customer base of that startup? All these things are important because the first employment is all about learning how companies operate and build products.

One effective way to get placed in a startup operating in the candidate's field of interest is to join the team as an intern in the second or third year of engineering. Once the internship is complete, the candidate should let the startup know that he would be willing to work full time with them after their engineering program. One good thing about working in a startup with vision and a skilled team is that it provides the employee with enough room for self-growth.

Ideally, before signing an employment agreement with a company, the candidate should submit his/her research papers to the conferences. In case a candidate has invented something and wants to protect it, they should file its patent application. If the candidate doesn't have enough funds to file a patent application, they should at least email the invention related content to his own email address before signing the employment agreement to avoid IP clauses of the company.

The candidates should file their patents as early as possible. It is because every employment agreement related to engineering has an intellectual property clause that says things like "intellectual property generated during the employment will belong to the company". Even the employment agreements of many startups do look similar in this aspect.

At the beginning of the final year, the candidates generally start looking for companies of their interest. Some candidates even have a list of compensation they want from the company, but a few of them give a thought to what kind of candidates that company is actually looking for. Think about it, wouldn't it be advantageous for a candidate to know the wishlist of the company?

When a company hires for an engineering role, they simply look for someone who has demonstrated their engineering skills to solve problems similar to the problems faced or to be faced by the company, provided the candidate doesn't have extreme biases. Other skill sets are addons! But a good vocabulary and presentation would not harm.

An exceptional candidate is one who has either a project, research work, or better, a patent in the technology or field where the company operates. In the case of a patent, it would be very likely that the company would provide that candidate with a job offer even if the alternative candidate is from the world's best engineering college and has a gold medal.

If that patent is creating an entry barrier for the company, the company might ask the candidate to give them the exclusive rights of the patent for a certain price, and generally, the candidate does get a job offer too.

There is a saying in the corporate world, i.e., "Employees are paid not based on their skill but on how difficult it is to replace them". But most employers are not aware of the foxes of the modern corporate world. These young foxes, instead of looking for the highest paying job offer with more responsibility, look for the second or even the third-highest offer with a slightly less hectic work schedule and less binding employment agreement. This strategy gives those young foxes enough free time to work on their side-hustle, level up their game, or simply explore life.

EAGLES AND THE LIFE

It was a very special day in the lives of our young eagles. They were excited and prepared for their “first official flight” after completing graduation from the prestigious Sky Wings Academy. To make the first official flight, our young eagles first had to march to the top of the tallest mountain in the village and then take a “flight” to become true eagles.

As the birds approached the mountain, some started talking about why they should not go for the official flight, and some even thought about leaving, as according to them, it would do no harm because they had already got the credentials from the academy. Words like these quickly started spreading within the group, and, as a result, some birds, without even putting a foot on the mountain, quit their journey.

The majority of the birds continued with their journey. After covering half of the way, most of the birds became tired. Some birds suggested taking a rest and continuing their journey the next day, as it was getting dark too. A long debate took place, and most of the birds decided to stay while some chose to continue.

It was evening, and a butcher was on the way to his home. When he was passing near the mountain, he saw a group of birds. He thought if he sold the meat of these birds, he would get enough money to survive for a few months. Butcher gets filled with joy and starts capturing the birds. After capturing the birds, he then left for his home with pride.

It became dark, and only a few birds were still moving ahead to reach the top. Meanwhile, the rain started pouring, and the large group of birds that stayed halfway started discussing how smart they were that they decided to stay. The mountain was inhabited by wolves, and when they heard the sound of birds, the wolves formed a group and attacked. Those birds were so confident that they couldn't fly that they didn't even give it a try and became food for the hungry wolves and their families.

Soon that light rain transformed into heavy rain, and it became difficult for the birds on the journey to continue. Birds kept themselves motivated and continued their journey, and after some time, they reached the top.

Birds got amazed when they saw a golden cage present on the top of the mountain. The cage was filled with food and all the joys a bird can imagine. All those birds, except for one, chose to be in the cage as, according to them, because of the journey, they were too tired to even attempt to fly. For them, it was the safest and the most logical choice.

That one bird, who didn't choose the cage, jumped off the top with the belief that it could fly. When that one bird was falling from the top, it kept trying to fly. It started raining more heavily, which then caused a heavy flood on the mountain. All those young wolves, who had never hunted themselves, died because of the flood since their weak muscles couldn't protect them against the heavy water flow.

One bird, which kept on trying to fly, knowing very well that it would be the end if it failed, at the very end moments of the fall, its hard work paid off, and it

learned to fly. It flew in the sky, higher and higher, and then flew above the clouds and avoided the rain.

The rain stopped after some time, and when the sky got clearer, those safely caged birds saw an eagle flying in the sky.

