ALONSO QUIXANA

STUFF THAT NO SENIOR WOULD TELL YOU.

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A collection of quixotic but essential advices from the internet for an Indian grad student.

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Alonso Quixana: *Stuff that no senior would tell you.*, A collection of quixotic but essential advices from the internet for an Indian grad student.,

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To them who are reading this One day, I wish for you to lead me.

To be nobody but yourself in a world doing its best to make you everybody else means to fight the hardest battle any human can ever fight and never stop fighting.

— Edward Estlin Cummings.

My great mistake, the fault for which I can't forgive myself is that one day I ceased my obstinate pursuit of my own individuality.

— Oscar Wilde.

Alonso Quixana is a pseudonym. The author is in reality, Ragav Venkatesan. Academically, Ragav completed his Bachelor of Engineering in Electronics and Communication Engineering from Jerusalem College of Engineering, Anna University, Chennai, India in the year 2010. He continued his education with a Masters from Arizona State University in Signal Processing and Communication Engineering, Electrical Engineering. Since the fall of 2012, he is pursuing his PhD in Computer Science. He was also briefly interning with Intel[®].

He has consistently been part of online forums helping Indian students come to and study at ASU since 2011. He was co-founder of ASU Launchpad and was a member until 2014. He is an executive member of (now a secretary) of the Indian Students Association since 2010. He has also been an active member of USIEF Chennai and has given many talks in both USIEF and other consultancies in India.

Alonso Quixana was a name originally drafted online with when a facebook profile was created to remain anonymous and still be able to answer questions from students. The author chose to remain anonymous because of the barrage of questions he gets on his facebook profile had become intolerable. He no longer has a facebook profile of his own, hence anonymity is not of value anymore but he decided to retain the name as he has grown rather fond of it.

Alonso could be reached at aquixana@gmail.com for any queries.



This book is a collection of documents that Alonso wrote and constantly updated since 2011 on online forums. Some of them have also been added on from the hangout with Alonso Quixana series of hangout videos and other conversations that he hosted. These have also been some notes he has made during his time at ASU and some chats and conversations that he has had during the last five years both with students who are new and students who are settled.

Although this book is written for prospective ASU Indian students, the contents work for international students from any country going to any school in the US. One should use this book as an addition to all the folks they talk with online. I write this book because I find that in every university facebook group, some questions are never asked and even if asked, the answers are not what a responsible senior should give. I write this book also to impart two virtues in students that one might not find in India (or probably other countries).

- 1. The idea that one can succeed in anything they want to, as long as they work hard.
- 2. The idea that one shouldn't compete so hard to be average.

Hopefully I will succeed. Please enjoy the book as you would any novel. Please share the book to your friends from your GRE classes or from your college who are attempting to come to the US as well. Since I am self-publishing this version and I really don't have time for marketing, I am not going to make a big PR push. The book is available for free download on my website.

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1

INTRODUCTION

Don't ask these questions, find the answers yourselves.

Everyone wo just received an admit has the usual questions. What is the fee per credit? How are the career opportunities? Is it is easy to get a part-time job? How easy is it to have a lifestyle? How is the university for this and that course program?. The answers to these are easily found online, either in your school website or from your seniors in forums in facebook or edulix. Irrespective of what stage of the admissions process you are in, there are some questions that you might have and the answers for them are usually available only with your seniors. If you need answers to these about ASU, send me an email and I would love to answer you. There are however a set of questions, past the facts that are mundane. these are idealogical, cultural and shapes how you would view your degree program. I intend to answer some of those in this book.

1.1 WISDOM OF AN AVERAGE PERSON FROM THE PREVIOUS GENERATION

Now that you have an admit to an university in the land of the free,

there isn't really a limit to what you can dream of achieving, not because you should let your dreams go wild, but because even in reality, there isn't a limit to your goals. This is a country, where if you work hard enough, you could do *anything you want to*. After about four and half years of my academic life here, this is one piece of

four and half years of advice that I could give.

Possibly because not many students have heard this or because no one wants to try it, no one really achieves their dream. I ask students the first time I speak to them online, what they might want to achieve. They give me tremendous answers. Some want to start their own companies at silicon valley. Others want to start an NGO that solves all possible problems in the world. Some want to build devices that forever change the way we live and others want to put their skills to solve the biggest problems of the day (usually the energy crisis or income inequality). Why then would everyone end up with a job at Amazon working as what I would call a *glorified book salesman*. What happened to all the ambition; the hubris?

Inception is a movie about implanting dreams for those who don't know Sometime before they land here, they talk to their seniors, who scare their dreams away *inceptioning* instead with nightmares. Nightmares of financial problems. They induce in you the idea that the point of your education is to get a job once you graduate so as to pay your loans back. They tell you that it is the *norm* that once you are

here, the more important job is to get a part-time job rather than finding a thesis advisor, to get an intern rather than exploring the culture around you, to take certain courses that apparently are the only ones that would give you a job rather than those that you want actually are interested in and want to study. They infuse in you an image, the image of how an average graduate student is. You are now expected to turn every cog and build for yourself the same image so that once you graduate, you graduate like every senior before you and their seniors before them. This wisdom passed on from class to class every year online, is what I believe to be the reason that stops you from being yourself and achieving your dreams. Sir Ken Robinson says that schools teach students out of their creativity. My addendum to that would be:

Academic seniors, advice the ambition out of their juniors.

Listen to Sir Robinson's ted talks, they are amazing.

1.2 COMPETING TO BE AVERAGE

Once everyone has this image imparted in their minds, they strive so hard to live up to it. After all, it is their seniors' word against their own hubris. Its the safest thing to follow someone whose path, you know, leads to something *sustainable*. Your senior is after all someone who has gone through education much the same way that you are expecting to go through. They got a part-time job in their first semester and held on to it throughout their degree, got an intern in their summer break, got a job once they graduated with a high five figure compensation. You would think very easily that following their steps would be the best thing to do.

The problem that I have with this ideology though is that the person whom you are trying to follow is an *average person*. The *wisdom of an average person*. Most reasonably good students with some academic capability will be able to achieve this level of *averageness*. Where is the difficulty in re-doing all the course work you did in your undergrad and getting an undergrad job with a masters degree ? This is by definition the life of an *average grad student*.

With the amount of competition in a school like ASU, where everyone wants to have the same kind of *average job*, there is intense competition to follow this image. I call this, competing to be average. One have to really toil to be the top person among such an *average group*. This is compounded by the fact that your seniors tell you that the companies that you are expecting to be hired by are also looking for someone average, someone like them, like you when you follow their footsteps.

We look at them, with their life, *stable* and think that, it is what we want. We re-orient our dreams. The old American dream of having a sub-urban house with kids playing in the front porch is the reason for our failure in our ambition. This re-oriented dream is never an

answer that I get to the question I started this article with although this is the answer I get from every masters' student during the course of their degree program.

Having a degree and an average job is akin to be being a bird with broken wings. By competing to be the best among the the average, we are living the dreams of just about everybody else and not our own. While we may easily feel that a book seller is a good lifestyle, we should dream to be on the books rather than selling them. While it is true that our ambition will take us through a route that is not paved and lead us to places that we don't know much about, it is better to find out what is at the end of such a road rather than to prefer the ending that everyone knows about, considering that we get to do the journey only once.

This travelling-journey theme is something that I repeat often.

1.3 PREJUDICE, TRY TO GET RID OF IT

While still in India, you might have some prejudices. What you might be *allowed* to do and what not, while you are here. Remember that while you are on a F-1 visa, you can do anything that any student here could do. Unless specified that certain, services, jobs or anything is for US citizens only, don't think that it is not for you. Most student clubs, organizations, local newspapers, even law or police groups for that matter accept international students and try to work with them too.

Most often when we go to another country, we are focus on following the herd of people who have come before us. It is reasonable to want a piece of home where we are. But we are pioneers, we need not just to do and be like what our seniors were, we must surpass them onto new frontiers. Pioneers whose tradition start with a want of having a quality education. So lets not close our minds. Let's be open minded from here on and be the people who get into the history books that our children read.

With this in my mind, it would be hypocritical of me to ask you to read this book further considering it is just another book of advices. Ergo, I intend to only write these advices as *alternatives* that you might want to consider. You are to read my advices, check out *the others'* advices similar or otherwise out there and draw your own conclusion as to what you might want to action upon. Remember you must make your call.

Part I BEFORE YOU ARRIVE

2

COURSE SELECTION IN THE FIRST SEMESTER

I will assume that you have finished and cleared all procedures including the processing of your i-20 and the removal of your holds. If you haven't done so, you wouldn't be able to register for courses. It is of utmost importance that you do all these as early as possible and start with course registration.

Most important first step: Clear your holds

THE RAT-RACE

Every semester, about 600 Indian students register for courses (in CIDSE alone; numbers vary from department to department). Everyone want the same set of 3 courses. Because of reasons not fully understood, everyone has the same interests. Each course has about 60 to 120 seats (this number seems to be growing every year so I don't know how many will be available for you). These fill up in the first 2 or 3 seconds after registration begins and almost never opens up again. The result is that first semester students don't get the courses that they would want. In fact, its party time if you get 2 or even 1 out of the 3 courses that you wanted. Look out for the registration day on your blackboard and start registering the second, your registration opens.

Just to give you an idea as to how difficult it is to find courses

Now because of such a situation a lot of students register for courses that they don't want but might be popular in that hope that at a later time they can barter for the courses they want. Buying and selling of course seats and bartering is a huge and disgusting issue that usually happens in the open in black-market forums on facebook. In fact every year many a forum start in facebook and such for socializing or knowledge sharing purposes but end up being one of those trade forums. Its a sad fact that students lose their ethical compass when it comes to this, and no matter how well they study, they lose their chivalry of character at such a time, albeit this is a small crisis.

Unfair practices resulting from this rat race

Some times, juniors are cheated by seniors and their advice. I know of cases where seniors actively advice against taking some courses by juniors, because it would hurt their chances of landing a seat in those courses. This is why I always say, take a senior's advice with a grain of salt.

Deciding on the course to take

Once you have got all these holds cleared, the first step is to look at the course catalog. In your blackboard below the statement that says when your registration opens, you can see a tab called registration. Remember, even though you cannot register yet, you will still be able to add those courses in your cart. So click on add. If the catalog is open, click the third green button from the top, the search button. This button will take you to course catalog page where if you enter your department and campus alone, you will be able to see courses that are open/closed/available for your semester with the faculty who is handling them, the timing of classes and other meta-data Once you are in here, you will be able to see all courses and who is offering them. This catalog is planned in advance so you will be able to plan your study in advance.

Now that you know what courses there are, lets move on how to decide on courses. Technically, you can register up to to 12 credits without ticking off the graduate office. If you have prior permission you can register for higher number of credits as well. If you are an international student (judging from the fact that you are reading this book, I would assume that you are), the US immigration law mandates you to register *full-time*; if you are in F-1 visa. *Full-time* at ASU implies 9 credits. Although you are allowed to register for 12 credits (usually 4 courses), unless you intend to take them, do not register for 12 credits. Think about your friends and peers who might want the courses desperately. The extra course that you have and might not take might be something that someone else is looking for. Plan what courses you want to beforehand, not only will you only register for the courses that you need, you will also be able to be ahead in the rat-race when you know what courses you want.

Some Priorities and advice on course selection

To decide on what course you want, out of that huge list of available courses is a little daunting. So here is a breakdown of priorities in order:

- Pre-requisites come first, if you haven't cleared or waived them off.
- Mandated courses comes next.
- The third and the most important are the courses that interest you.
- Finally the courses that *you think or your seniors told you* that might be important for your career path.

You will have a lot of advice on this, in the coming month from various seniors, from various discussions and forums, I am sure and once again, take them all with a gain of salt. Most seniors have no idea what they are doing, but are living off of their seniors' advice. You will be surprised to see how many people are lost completely in their career path and interests after they come here. It is critically important that the courses that you register are of your choosing and not that someone else have chosen them for you. Some seniors give malicious advice to either drive the crowd into impressionable ideas and prejudiced opinions, beware of that.

Whenever you are unsure, always ask the instructor who is handling the course (politely) for syllabus and questions like, what to expect in the course. For most professors, they would have developed the course from ground-up and are usually proud of students taking them so would always reply and help.

This is an impressionable period of your lives, where you will take important career, character and personality decisions. Make sure that they are yours and not someone else's. You don't have to do something because many others are doing the same thing, whether its staying in some apartment complex or taking some courses. Stop looking at the person next to you, make your own decisions and guide your own program yourself.

You don't have to pay the fees while registering for courses. Fees are paid only just before the semester begins, sometime in August (for fall semester). Even though your registration might begin mid-march (for fall semester), you will be able to see the class search and the course catalog much earlier. You can go ahead and add the courses you want into your cart, and have them one click away from registration. This way the second your registration opens, you will able to hit register and pray that you are still not late. Believe me you will not be able to get the course you want with nominal luck, unless you are prepared. So be prepared, the first few seconds of registration are critically important.

There are drop and swap options available right where the add option was found. You can use them to drop / swap courses at any point before the deadline. The deadline to drop or swap courses will be somewhere in the first week of your classes. This means that you would be allowed to register for courses after attending the first two lectures at least. Remember, once semester starts, you cannot go below 9 credits, so you can't drop and add, you will have to swap. ISSC will give you an orientation on how to maintain VISA status, do attend such orientations.

Finally let me reiterate, what I have been saying in the opening of the section. Getting hold of seats is the most important, difficult, irritating part of ASU graduate academic life in the last few years. Its really a sorry state of affair, where otherwise really nice people become mean. Be ahead of the game, but don't lose yourself in that. But firstly, be informed, decide your courses early and be ahead.

Tip: When you email your professors, use only your asu email id and be professional.

FAQ: Is it required to pay the fees?

Dropping and swapping courses

ON THE QUESTION OF THESIS

In this chapter, I address various issues involving the thesis option in MS. I will explain what is the difference between thesis and non-thesis, what are the protocols involved in both (particularly the thesis as they are difficult to comprehend on first glance) with some general advice embedded here and there. There is unfortunately a lot of misguided and false information available on the forums therefore, this article, I hope will clear the air.

Firstly, most students from electrical engineering will be admitted to an MSE. In computer science department, some will be admitted in MCS and some others in MS, depending on where you seek your admit. Other departments likewise have their own nomenclature but they have these two systems to coarsely differentiate a non-thesis from a thesis masters degree.

Secondly, before I go any further, I would like to make my bias clear. I believe strongly, that a graduate education without research is just a mere extension of under-graduation and not to be viewed as a graduate degree. Masters as a graduate degree is fairly new, may be less than 30 years old. Masters degrees were given to PhD students as an appreciation, when they decided to quit mid-way owing to various circumstances. Soon it became a fashion to do smaller and smaller pieces of research in the name of masters thesis. I will try to be as unbiased as possible, but the above statements should make it clear that personally, I am pro-thesis.

Table 1 coarsely differentiates a non-thesis degree from a non-thesis one. I guess these information are already available online. But what do they mean ? I will explain things one by one.

Whether you do a thesis degree or a non-thesis degree, you will have to complete 30 course-credits. This means that financially, both will cost you the same and also that they both (technically) will take the same time. Doing thesis work gives you the advantage (or sometimes a disadvantage, in case you have a nice course to take and miss out on it) of taking up to 6 credits of *thesis credits* which are also considered as graduate level course-credits. This means you are allowed to opt out of two courses if you choose to. A thesis degree comes with a master's dissertation document. It is a strong thing to have during an interview. It is proof that you successfully completed a research project while at grad school.

Non-thesis students also sometimes have research work and possibly published papers, but not as valuable as a thesis document. If you want to project yourself as a research candidate, either for a fu-

My personal bias

Thesis degree has 6-credits less

Thesis	Non-Thesis
8 courses	10 courses
6 thesis credits	all credits can only be courses
thesis document	no research portfolio
thesis defense	comprehensive exam / portfolio
MS degree	MCS/MSE or similar degree

Table 1: Performance of various MIL algorithms on the musk dataset.

ture PhD admit, or for certain types of jobs, both in core development and in R&D fields, or in research labs, this is important. But having a thesis, will in no way affect you in getting jobs that any non-thesis students would apply for also, so being a thesis student does have an edge.

Thesis programs culminate in a thesis defense where you defend your research proposal to a research committee of your choosing, who clear your degree. Non-thesis students have something analogous too; the comprehensive exam. The comprehensive exam is one long exam which tests the candidate on all or a subset of courses in your area of specialization. Some departments like the computer science don't have a comprehensive exam but it is required that you show a portfolio of at least 4 course projects. Either way as far as I know this is just a formality and in case of electrical students very very few have failed their comprehensive exam.

Thesis students also usually require a thesis committee with an advisor who will guide you in what you do, though there are ways in which you can do individual research also. The thesis advisor is usually a person whom you can depend upon for job recommendations and in general advice regarding opportunities and insight into specific positions in specific companies. Most professors are proud of their research students and in general will help them have a set future.

The nomenclature of the degree shouldn't effectively play any role in ones choosing of research but some time it does. It is humbug though, to think that one has more value over the other. MS and MC-S/MSE are both graduate level degrees. Some companies expect students to have research, while others prefer certain course and project experience. To research or not to is one of my favorite topics of debate and I will come to it next. But before that ,I want to be as clear as possible that *No one degree is better than the other*, and that what you want to do is up to you and your choice will be respected.

To research or not to research is a question that usually a lot of students ponder over on their first semester. Frankly, most decide one or the other but for the wrong reasons. Bad reasoning include:

The comprehensive exam

Project Portfolio

Advisor

MS vs MCS/MSE degree nomenclature

To research or not to research

- Choosing to do research because of funding opportunities.
- Choosing to do research because you believe that MS is a better degree.
- Choosing to do research because of peer pressure.
- Choosing to do research because you mistakenly committed to a professor and don't know how to back off.
- Choosing to do research because of FUNDING.
- Choosing to do research because it is cool.
- Choosing to do research to avoid the additional two courses.
- Opting out of research because of worries about duration of course.
- Opting out of research because its difficult.
- Opting out of research because you got an internship call or job offer.

Funding

Examples of bad reasoning

Choosing whether to do or not to do research based on funding scenario is one of the most common reasons I come across. Opting to work on research or not, should be based only on ability, confidence and passion towards research and not funding. Funding is often easy to avail if you are into research and difficult otherwise - I agree. But if you are here for the money and not for studying you are not going to enjoy your education. Funding should not be a reason for research, and neither should it be for anything. Funding is just a motivation. Though all internally seek it, it should not be the sole reason.

Length of MS

Duration of course is another bad reasoning to opt our of research. Is there is a possibility that your degree might be extended if you are doing research? - yes. Then again if you are here for the research, you wouldn't mind. Most professors are kind when it comes to extensions of degree program and are very understanding towards their own students. Most often you will be funded and your finances and expenses stipend-ed for. I personally know someone who finished his thesis in less than one semester. If don't believe me, listen to him yourself.

Prof-Committement

Some people get stuck with a professor/research projects they mistakenly committed to. You can of course fold in the middle if you wanted. What you want to do is purely what you want to do; no strings.

If you are only here to master skills and developmental tools, then don't even think of research. Take nice and interesting courses do some nice projects build your resume and land that \$85k+ job. MC-S/MSE degrees' value is based on your skill set and nothing else, even GPA plays a minor role. My advice is for you guys, who want to

do a non-thesis degree is to put this thought out of your mind. There is very little that you can do from your home country. More often than not, you spoil your chances of getting into research by *e-mailing professors from home*; Avoid it unless you are absolutely sure of what you are doing and talking about. Once you come here, through your seniors and peers and just common nerd gossip, you get a lot of information about professors and their current research endeavors. Then, is the right time to analyze your stand on research and choose a lab. Additionally, please remember that when you approach a professor, you are expected (or is acceptable) to know very little and only have the ambition and sincerity. Don't spoil your own chances by pretending to know more than you actually know.

When to get started

The dance of masters' research

The procedure of a masters research is not well-defined. The best research students are generally PhD students, or go on to become one. I personally believe that graduate education is incomplete without research, but masters-level research is too short and usually not comprehensive enough. Having said all that here is a quick overview of what you can expect.

Sometime in the first or the second semester, you should find your-self working in some research project with some professor in some lab. Once you are working in such a lab, you will first be mentored (most often by more experienced PhD or Masters students in the lab) or by your advisor (notice the change of vernacular from professor). You will be doing some literature survey and basic implementations. At some point in time, you will feel that you are transitioning from doing busy work and proving yourself, to a point where you have proved yourself and are being seriously recognized for your work. This is the point when you should go to your advisor and pop the question. On most occasions, your advisor will ask you to change your degree program to MS from MSE or MCS or the likes and will sign the paperwork.

Once your program of study is converted to MS, you are free to register up to 6 thesis credits. This is just a formality credit and doesn't affect your work in any way. You will continue working on your re-

search and publish papers with your advisor until such a time when your advisor feels (or you make them see) that you are ready for graduation. Some labs have well-defined policies on when you are ready to graduate, for others its just an eye-measure. Make sure that The Apprentice

Asking your advisor for a thesis

The Research Scientist

at some point in time you discuss this with your advisor so that you both are in the same page.

When your advisor lets you know that you are ready to graduate, you start writing your thesis document. Again, most labs will have

Setting up the Thesis Defense

their own protocols with the document and otherwise can be found online.

Thesis commitee

I won't go into much detail here as most thesis documents are very personal and unique for each student. Simultaneously, you and your advisor will work together to form a thesis committee. A thesis committee is typical three or more people which is chaired by your advisor. The thesis committee can consist of other professors from the same university, or other universities or industry experts or the like. Once you finalize your thesis committee (and of course after you request your committee members' approval), you submit your committee for the approval with the program chair of your department. Once your committee is approved, you can go ahead and schedule your thesis defense at the leisure of your committee members, lab mates and friends and send out invites. Some committee members might want your thesis document and/or other papers you might have published in advance.

The defence ritual

Once everything is set up, you can now defend your thesis. The thesis defense is usually a half hour to forty five minute long presentation followed by some moderate to intense question answer sessions at the end of which your thesis will be cleared and signed off for some publisher to publish it as a book. On some cases, the committee might ask you do further investigation or experiments or modifications to your thesis. In the extremely rare case, your thesis might be failed and you might have to discuss with your advisor as to what are your options. Once your thesis is cleared and if you have met all your graduate requirements, you are graduated and are ready to party.

Again, I want to emphasize that a masters thesis though very similar in procedure to a PhD is a gray area, not always a big enough research and not always too small a project.

3.1 THESIS-O-PHOBIA

Some Myth Busting

Students who do thesis are not aliens or super-humans or in any way superior to those who do non-thesis: In fact, quite the contrary, students who do thesis are usually quite narrow-focused on their research topics. Non-thesis students usually have less freedom and more generally are incredibly busy with their course work as it is critically important for their GPA to be maintained higher. Whilst, thesis students have a lot more time in their hands (at least it appears so) as they would be doing only what they wanted to do and in some ways define their own syllabi. They will be exposed to people who are experts and therefore will have more wisdom (to be read nerd-gossip and not wise-ness).

Thesis is not a difficult thing to do, quite the contrary. The difficulty depends on a lot of things. Mostly its prejudicial opinion created by non-thesis students who don't have the patience or time to under-

stand and realize that what the thesis students are doing is basically extended course projects, only they are new ideas. Research so far for me is the best thing I have done in my life. The pleasure of knowing that I contribute to the world of knowledge is in a way orgasmic. There is also the added inspiration of Legacy. If you follow my academic genealogy you will find some legendary people in there. It's inspiring for me to know that I belong to such history.

Do not be afraid of a thesis and prematurely decide on converting and settling to a non-thesis option. If for nothing, give it the benefit of your doubt, come here give research a try before you discard the idea completely.

TYPES OF COURSES

Since the system here is new, It would be useful to go over what the course numbers mean.

Course Numbers

At ASU, you will usually find courses go from 101 to 700+ Here is what they mean.

- 100 level Freshman courses taken by first year undergrads.
- 200 level Sophomore courses taken by freshman or second year undergrads.
- 300 level Junior courses taken by sophomore or third year undergrads.
- 400 level Senior courses taken by juniors or fourth year undergrads or some graduates if offered as a 598.
- 500 level Graduate courses taken by seniors and graduate students.

Special topics courses

- 591 level Special topics and seminar courses. Usually courses that are in the trial period, requested by many PhDs, or requested by Industry experts or demands. Interesting topics that are coming up in research. Many reasons are there for why a special topics course is offered. If there is a need to make them permanent, they can become one also. These are not difficult. Usually these are courses with small classrooms and students working together with the instructor to learn on a one to one basis. Of course some of them are well-established. These are often offered only on demand or on a bi-yearly basis, so if you are on a two-year degree program, you will get only one chance to take them.
- 598 level Undergrad courses that are encouraged and disguised for graduate students also to take. Usually the most advanced fundamental courses come under this category. Design and Analysis of Algorithms for example is one.

Multiple offerings

Although not common in many departments, CSE for instance has a lot of demand for some courses leading to multiple classrooms including live stream and online stream courses, multiple instructors handling the same course and the likes. You should register for only one of them. This is good in some ways as it provides a little flexibility with timings. This is bad because it leads to immense competition

and unwanted crowd in classrooms. Sometimes when there are multiple offerings of the same course, bear in mind the caveat that not all professors are the same and not all the material will be the same. Do some research as to which material or professor fit your needs and expectations best before choosing a session.

Hybrid classes are a new addition to the ASU culture of learning. Due to strong demands for some courses, the classrooms overflow. These overflow are accommodated in different classrooms with a live video stream (sometimes available via blackboard). You will not be able to ask questions directly to the instructor, but sometimes there are either chats or TAs to whom you can direct your questions. The fee for this remain the same.

Online classes are another way of attending classes. They are a way in the sense that you actually don't go to classes and often you just email (or even post) the assignments and whatnots. These classes are generally preferred by students who are either desperate for the course or are interning elsewhere and want to finish up their course-

work. These costs extra. I don't know how much, but significant;y

enough that not many people prefer these.

Hybrid classes

Online classes

EMAILING 101

I shouldn't really give this as an advice, judging from the fact that you are a mature prospective graduate student, but after chatting with some members in some forums and elsewhere I realize that this is an important issue. I am addressing concerns and alarm bells that rings with me after having talked to a few. I am unsure if some of these are cultural problems coming from your regions or countries, but please try to adapt them in your email writing styles.

Whenever you send an email to anyone in ASU, staff, faculty, advisors, colleagues, please use the asu email id. Also please be as formal as possible. You should address someone as Dear <title> <lastname>, and end the letter with a Thanks or a Regards.

Don't address anyone as Sir. NEVER address anyone as Madam as Madam is the lady manager of a brothel house. Someone from India in a forum in 2012 informed me that this is traditional in British and old British commonwealth countries and particularly India. I really want to emphasize this, Sir is acceptable (in some cases) but madam is downright rude in the US.

Never expect favours from professors becasue they are from your country, your city or religion. Its rude and slightly outrageous to pull strings. Be as professional as possible. Don't write long emails which circle about. Be consice and clear and to the point.

Do not use long words or sentences just to show your prowess in english. Remember, some of the words you use might have alternate connotations.

Do not press for replies. If someone is not replying, they are busy or they do not intend to reply. Don't press and end up in their spam folders. This is all the more important if you are emailing a professor. Professors and advisors are extrememly busy people. They won't answer questions the way I do. In fact, if you ask for something and that informaiton is readily available online, they won't even reply back. Always look up online before you ask.

No one will respond to your questions on funding or Thesis on the first go. Its a process getting into someone's research lab. As I wrote in the thesis chapter [3], you need to prove yourself to a professor, before they even consider you for thesis or funding positions. If you are asking them for something start slow. Start by asking something like the following:

I am interested in *so and so topic* and have *such and such experience*. I have read *this and that papers of yours* and find so and so material interesting. I would be honored to work

Always use the asu id

Dear Dr. <last name>

Don't show off your vocabulary

in *your lab* and would be grateful if you would schedule a meeting with me to discuss some prospective projects.

You need to be patient with these things. Its always good to schedule meetings and discuss these things up front rather than on emails. Like I said they won't even bother reading emails. Be careful what you say to professors. Most of them maintain their emails properly organized. The first theing they do when you ask them something in the future is to check for prior communications. You don't want to say something and be embarrassed by it later on.

Part II WHILE BEING HERE

SOME HEALTHY HABITS

Indian Mentality

There are some habits that some like to call "Indian mentality" (though I strongly disagree with the term) that make bad impressions. Here is something for you guys to consider and give a thought while you are doing your degree.

6.1 GROUP PSYCHOLOGY.

You are here not only to study, but to make a stand for you, yourself. But if you had come here with a bunch of your friends or if you happen to live with a bunch of people from you own region or language, you tend to get into this habit of *group-ism*. I have seen people taking same courses, choosing same style of food and frankly opting to form similar opinions just because of the fear of *losing their group*. This is ridiculous in many ways. More importantly its makes you lose your individuality. It is also a good idea to mingle around, get to know people of different regions from India and also people from different nationalities. Appreciate everyone's opinion, though defend your own. In short, don't lose your individuality, but don't be an outcast either.

6.2 DEFENDING YOUR OPINIONS.

Don't give up easily on your opinions. Defend your opinions and also investigate other's opinions before you contradict. Having a fair and unprejudiced mind is of absolute necessity. Just because three or four people claim something doesn't mean its always true and just because it stuck as a simple idea doesn't always mean its really easy. This does not mean you brutally fight with others if they are wrong. Everyone is entitled to their own opinion, but it doesn't hurt to have a healthy debate. Also learn to accept mistakes. If someone corrects you, there is nothing wrong about it. Take it with pride.

6.3 SELF RESEARCH

Investigate before you act

Again, this pertains to something that I see a lot on forums. If you have a query that you would like to ask someone, first make sure you have spent enough time searching it before bothering someone and wasting their time. This means that you have to investigate before you act. Also be curious about things in general. We are here to learn of course, but that doesn't mean we should only do the prescribed

homeworks or do only the syllabus. Play around with the math thats taught or build your complicated codes to do simple things. Crashing your computer a few times is not a bad deal if you master pointers as a result of it. Self research and experimentation are two of the most important tools for effective learning in here.

6.4 PLAGIARISM

This is such an important habit that I wrote an entire chapter on it [8]. You can even be deported from the country permanently in severe cases. *Never copy anything* not even assignments. Most professors take academic integrity very very seriously. Some of the professors slides may be copyrighted, which means you can't share them or post them online either. In blackboard there are discussion boards where students are allowed to discuss in forums. I personally know many who got punished severely in terms of grades (and had an integrity trial) for copying someone's results that were posted in the discussion boards. Please take this very seriously and avoid this. This is not just a behavioral syndrome, this in fact a university law equivalent to a criminal activity.

6.5 BEHAVIORS AND MANNERISMS

In the US, there are particular behavior patterns that are absolutely necessary. Some are cultural but some of them are really polite and good to follow.

- 1. Say thanks and please. These courtesy words go a long way. Greet anyone you meet with a *hi* or a *how do you do*. While getting down from a bus, thank the driver. While meeting a Professor, wish them a good day. Apologizing (by just saying sorry) can diffuse a lot of situations.
- 2. Language (particularly with professors)

Professors here know a lot. A whole lot more than you think they do. Most of the time they come down to your level and talk and sometimes they overdo it, making you think that you might know more than them. This can easily happen to anyone. Sometimes even they do make mistakes. But we should still be careful as to how to approach them with these information. Professors here at ASU are of absolute genius. Some of them are even considered legends in their own fields. Learn to respect them from heart. Having said that there are protocols to address them. Don't expect them to email you back, unless you use your official email id¹. Please don't use one line emails,

Professors are professors afterall

¹ Refer to chapter 5 on how to send proper emails

properly address them as *Dear Prof. Whomsoever*. End any email with a thanks and signature. Email language should be formal, even though the profs will reply you with short words, some of which are usually incoherent.

Prove your worth before asking to be paid

Don't just barge into someone's office asking for funding. Thats not how it works. You have to take up a project under a faculty or take their course and prove them of your capabilities before they even consider you for funding. Be polite to them and make them realize your worthiness before you start demanding things. Do it in systematic steps. If you are talking with class-mates or lab-mates, you need not be that formal, but still maintain some amount of dignity

3. Ask intelligent questions.

In class, or in a social group, or in online forums, wherever it is in public, don't say or ask stupid or mundane things. That doesn't mean you shouldn't say or ask anything, NO. You must be as outspoken as possible, but don't go asking lame questions. Ask intelligent questions. Before you ask any question make sure you have done some research on the topic or you tried answering it by yourself. You don't want to be that guy/girl who always ask irritating questions, but at the same time, you don't want to be lost.

4. Don't be shy to try things out of norm

I guess this comes under group psychology, but yet again,.. I notice in forums, for example, seniors say a lot of things, but they are advices. Collect as many as you can and make your decisions. Just because someone says its norm to not wear dothi to class doesn't mean you can't (but you probably shouldn't though). Just do or act on things that you think are good for you rather than what everyone says or what everyone does. - This is possibly the most harmful habit that a lot of students seem to have.

6.6 A PLACE TO STAY

It is understandable that the first time you would come here, you might choose to live near your friends or those whom you met online, but as your course wears on, you might want to live close to your department. A typical graduate student,

- 1. Probably attends classes and has his lab in neighboring one or two buildings.
- 2. Probably doesn't own a car or a motor bike.

- 3. Probably doesn't have the will to maintain a nice clean suburban house.
- 4. Probably is worried of safety in a still unaccustomed land.

It might be a little hard to comprehend this but the campuses here are so huge that it takes easily half-hour to walk from any end of the campus to any other end. Also we don't have campus buses going around the town picking up students. It is preferable to live on that side of the campus that is closest to your department. The rest is all situational. There shouldn't be a higher priority that living close to classrooms and campuses. Decide what is the best place around by talking with your seniors.

I have a strange piece of advice that I usually give my juniors.

Try and avoid living among a whole lot of Indians.

I have many reasons for this advice, but the most important is that when you live with a whole lot of Indians, you get yourself lost among them. Almost all the issues I stated in this book are because of Indians living among a lot of other Indians. Peer pressure and judgment are those that destroy the virtue of being American, the reason why the education system here is so good.

Finally- The value of being Indian is to represent a culture that is modified and tuned to perfection over a period in history as long as history itself. Don't underestimate the value it has and never lose it. Uphold it with pride.

Ofcourse there are campus buses but they probably never fit your schedule

ON CAMPUS JOBS

Full-time / Part-time

Some Opportunities

for jobs

Grading jobs

Difficulty of getting a part-time There are a lot of ways to earn while at campus, so much in fact that I cannot write about it all by myself. I will go over as much as I can. Most students work either full-time (full-time means 40 hours) or part-time (part-time means 20 hours). I haven't seen many graduate students work full-time but almost all undergrads do. Among graduate students its mainly international students that work. International students have a lot to catch up on without work and even when they work, they have to cross a whole bunch of VISA and social security restrictions, which I am not going to go over here anyway because when you get a job, you will be assisted with the formalities.

Many students work in food services. ASU for instance subsides all its food courts. There is everything from Aramark catering to Subway at ASU. Many students get work in these outlets as cashiers, service or similar. ASU being a state institute is full of bureaucracy, so there are always positions open for office assistants, which are a popular option particularly for older undergrads and graduate students. Undergrads and sometimes even grads get to work in gyms, housing, parking and other services as helpers and assistants.

Besides these, there are high-end job opportunities like programming jobs, and technical assistant jobs. When I say high-end, they are not really complicated, at least not for most students. But unlike me, not most people are Mathematicians or Engineers, and apart from Engineering and Sciences students, not many are hired for these positions even though they are in essence simple jobs.

Graders are another favorites among grad students (sorry undergrads you guys don't get these jobs). Graders are usually smart people with excellent reputation among the teachers and most often would have had at least one course with the faculty they are grading for. With so many classes offered, there is a plethora of grader positions.

On-campus jobs are sometimes easy to get and sometimes difficult. ASU has a lot of open positions but also a lot of students to fill them. They are usually purely luck. You can help your luck a little bit though by networking with the right people and most jobs are filled by reputation and references rather than hiring.

The pay-scale for these on-campus work varies anywhere between minimum-wage to about \$15. These are classifications student-worker 1 to 4. Some special jobs are classified as GA or Graduate Aides and they can sometimes provide for more.

From the questions I get in forum, I realize that a lot are interested in RAs. RA could mean either of two things. RA stands for either Research Assistantship or Research Aide. An assistantship is a funding situation, where the work you do is related to your academics. Most often graduate students who are doing research will be employed as research assistants and will be funded for their work, while they also get to retain credit for the material of their research often as a thesis, papers or patents. Research aides are very similar, except more developmental; and students don't have any claim to the material. While in an assistantship you are paid to do research, in an aide you help someone else with their research. Aides are more often just like regular on-campus jobs and not a funded job (I will explain what funding means later). RAs are perceived to be difficult to get. Assistantships are now becoming easier to get though, but only because many students are not preferring research these days. I have all ready discussed assistantships in chapter 3.

Research Assistantships

Research Aides

Teaching assistantships used to be strictly a doctoral student affair, but now a quite many masters students are also finding TAs, particularly in the industry courses (Undergrads and Non-thesis students, I am sorry once more. It is impossible for you guys to be TAs). In CS for example, since a lot of courses are over-flown twice or thrice over and with quite a few labs are in use, TAs are in good demand. Some classes often have up to three TAs.. TAs applications sign ups will come to you as an email notification from the department. Just sign up and hope for the best. If you are a PhD student, then most probably you would directly be offered a TA. TAs are a lot of work and the work load will depend upon your course and instructor. Unless you are absolutely sure of the material it will be difficult to be a TA, particularly for higher level courses.

Teaching Assistantship

All assistantships and some aides are funded. Funding comes in three flavours :

1. 25% *half-funding*: You will be reduced to in-state tuition, which is about one-third the full fee. You will also be paid a 10 hour stipend.

Levels of funding

- 2. 50% *part-time funding*: Your entire tuition will be waived-off and you will be paid a 20 hour stipend. Most assistantships and funding are 50
- 3. 100% *full-time funding*: Your entire tuition will be waived-off and you will be paid a 40 hour sitepend.

Assistantship stipends are usually anywhere between \$15 to \$17.5 an hour.

Most of these opportunities are luck-based so do not disquiet if you don't get one. Most students don't even prefer getting these jobs. They take a lot of load for a little money and it doesn't make sense,

Don't let on-campus job hurt your studies

particularly for graduate students to get even a part-time job let alone a full-time job. More often, the work load from on-campus jobs lead to catastrophic semester performances and other pressure. Most students get into a part-time job and realize that while it affects their studies, they don't even get paid enough to cover their bare essentials. Do the math and find an optimal trade-off when you do get into these jobs. Remember, you are going to ASU to study, don't lose focus and run in search of money, when you should be studying. If possible prefer to get into jobs that serve you for your academics or something that you can add to your resume, like an RA or a technical position or better yet, internships.

You shouldn't be worried about on-campus employment while you are still in India, if at all. You are transitioning to ASU to study and learn. Part-time jobs will come in the way of that, your main goal while not providing you much in return. I would like to do a small math to prove my point here.

Assume you earn \$1000 a month in your part-time, which is very generous. Lets assume that your degree program is about 2 years long, thats 104 weeks. Now the amount that you would have earned throughout your degree is \$26,000. Once you graduate, this would have been one-third your yearly salary. Now this is very generous to assume that you will earn \$1000 every month for the duration of your course work, but even if you assume that you would lose 20 solid hours of every week, not to mention the amount of time you spend resting because you are either mentally or physically tired after work and the time you spend in getting ready or traveling to work. Lets add all this up and say 30 hours a week is wasted.

I personally, don't think that it is worth wasting 30 hours a week just to earn so much money, that I would have earned in the first third of the year after I graduate, while this comes in the way of a \$45,000 worth degree which is going to get me this job. I would rather use that 30 hours to work and concentrate on my degree and get a better degree, may be higher GPA or good internships or papers rather than going for something that doesn't make sense.

You guys here are all bright and young, please apply logic and consider the logic behind my argument too, and make a decision for yourself, do you need part-time jobs? Ergo, my argument for why, you shouldn't consider a part-time job while studying on campus. You have come here to study, do only that and excel in only that. Whether you think different or not, it should be your decision.

Doing the math on part-time jobs

Are on-campus jobs even worth it?

This chapter was published as an op-ed The Hindu Education Plus. Copyrights are retained by the author and by The Hindu press.

Academic integrity is probably one of the lesser taught subjects in the technical education curriculum of India. I didn't even know of the word till I started my master's in the U.S., but there we go. I often work in close relations with my university's career advising coordinator and professors enough to understand its consequences, not just for those found guilty of plagiarism but also for those of us who adhere to it.

Requesting a professor in a big university for a research position is considered not unlike a wedding proposal. The moment they realize you are Indian, on of the first concerns in their mind is integrity. Its not a stereotype that I would think of as uncalled for, having myself witnessed cases of plagiarism quite a lot, being a TA.

Yet, the pool of brilliant students who come to the U.S. for higher education and internships is always on the rise and so are my concerns. I have heard from a professor once about an IITian who applied for an internship. He usually doesn't even open this kind of mail unless he has a position open and once he did. The student in question said he was interested in turbine engine automation systems and was engrossed by one of the papers in the same topic that the professor has written. Unfortunately, for him, his crawling code seemed to have backfired and the professor to whom this email was sent turned out to be an expert in artificial intelligence, not really related fields. Incidents like these make the professors in the U.S. wary of students from India who are genuine. A lot of good candidates miss out on opportunities because of others who consider these internships as all expenses-paid foreign trips.

These incidents continue once the same student comes to the U.S. to pursue his master's. I was recently involved as an advisory capacity in a resume plagiarism investigation in my university. Some well-minded senior has shared his resume in the hope that it might benefit others. Unfortunately his resume was copied word-word by about 50 odd students while applying for the same part-time job within a span of two hours. Needless to say no Indian was hired for the position.

Most research students who publish their work on a regular basis are usually aware of the consequences of plagiarism and usually care about academic integrity. They know how difficult it is to bring about new ideas and thereby know the value of others' work. But it is

Be weary of being a smart-ass

Never accept any material of integrity from a senior

plagiarism that arises on this small scale that creates the bigger problems. From assignments to exams we are used to or at least witness instances of academic dishonesty, but if you are aiming for an admit in a reputed international university, please practice integrity.

Always give due credit

Integrity is much like volunteerism, not an act but a virtue. If found guilty, could lead to serious consequences including deportation and retraction of the degree. Most importantly, as men and women of science it is our duty to credit those who deserve. More on this topic could be found online at Rutgers and at Indiana, and I strongly encourage everyone to look them up.

9

THE STIGMA OF FAILURE

Throughout the degree program, its easy to feel suffocated by the financial pressure. It is after all a lot of money. But the expectation of wanting a perfect masters' degree is unrealistic. I preach the *first free experiment system*. You are allowed to explore the department and all the specialization that are offered for about a semester. This will give you time and an idea, enough to plan your own degree program of study on your own terms. The planning of degree program is essential from the beginning of the second semester onwards. I recommend using the iPOS system to your advantage. This helps not only you but also the scheduling department to schedule courses. Unfortunately, exploring is not feasible today as failure is both financially and societally, extremely difficult to recover from.

Most people who come to ASU, more than half don't get an intern, which has become a symbolic performance check. Know this that not getting an internship doesn't mean your career is finished. How can it before it has even started? There will be people, both students from your own class and your seniors who would tell you that without an internship it is extremely difficult to get a job. If ever someone says this, its an important clue that you should never listen to that senior. Harsha Bhogle used to say that one should play for the challenge and not the reward. In education though, we do neither, we play to avoid failure - trying to be just better enough to get by. Most often when we start a new chapter in our lives, either a new degree or a new job, we are more concerned about not failing than about succeeding that we lower our initial goals drastically and end up only competing to be the best among the average. The pressure of finding an internship shouldn't deviate you away from your first priority - learning the material.

One secret sauce that I recommend for everyone to get a job and an intern and pretty much anything is to have an unique resume. Considering that there are over 3000 graduate students, having an unique resume is difficult I agree, but more often I come across resumes (from the time I use to do resume evaluations for free) is that everyone seems to have the same resumes. Its a confluence of bad choices actually: All take the same courses because all are advised by the same seniors; all do the same projects because all take the same courses; all apply for the same jobs and compete with each other while there are thousands of other possibly better jobs that others who didn't follow the above gets.

One experimental step is allowed.

Secret Sauce for jobs, interns and other magical things Consider this, if you are a computer science student say, and you take a course or so each in algorithms, systems, foundations, operating systems, networks and machine learning hoping that you have now expanded your job application potential, know that for every job you apply to one of these fields, there is someone among the stack of such resumes who has specialized in it. When I say specialized I mean either has a PhD in it or at the least has done 5 courses with several papers published in top venues and good references in the same field. Essentially even though you would think that you are competing with the average person[1], you are actually competing with the best person who has applied for the job. This is so because to be hired, you have to be the best among a stack of resumes and to be the best among the stack of resumes you need to just be slightly better than the second best person.

9.1 DON'T LOOK AT THE NEIGHBOR'S SCREENS

I go to open labs, where I see students work on assignments and projects. More than being interested in what goes on in their own computers or circuit boards, I notice that they are interested in looking at their neighbors. The attitude of measuring up to our own peer group is a big part of studying in a GPA guided world. The more we fear being outraced on such small instances and groups, the more we lose focus on our larger goals. Whats the point of winning the race and reaching to someone else's destination first while we didn't go where we wanted to go? Everyone has their own pace of learning, their own method of understanding and their own definition of success. We shouldn't ever be in a race with someone while we are also not simultaneously on a trajectory to our own goals.

My personal failures

We do this, because we fear failure. Most of us, have never failed before. Failure in India, the country I grew up in is a serious disaster. Failure is simply not tolerated in India. I was always an average student while at school (except perhaps my favorites physics and computers), I had two arrears (failed classes) while at college, I barely had a 3.5 GPA in my MS, I failed CSE 310, a pre-requisite, in the first semester of my PhD, what is supposedly a career-altering research idea now holds a record of 4 rejects in top conferences in the last two years and I have had 4 failed relationships. I list this out not to trainwreck my own image at the tail end of this book, but to point out that even after all these failures, I would say that I am not doing that badly, in my opinion. I always wanted to be a teacher since I was a kid and I am on my way to being a professor now. Granted it is difficult and it is lonely as all my friends from my MS have graduated and are settled, but I am happy too for I am on my way - my own way. Failures don't and shouldn't change your dreams and goals.

Although not really conclusive, this article says that having a relatively positive attitude towards second chancing across countries is positively related to GDP growth. India (and increasingly on the rise, the entire world) is the last place where you find opportunities for second chancing with such huge populations and tremendous competition. Ergo, we choose a safer but not so exciting route rather than a treacherous but far more rewarding and exciting route for the definition of success is now re-defined as the opposite of failure. The opposite of failure is not simply a not-failing though as success is a whole other thing form not-failing. This is one reason why Indian startups are difficult to find as compared to the zoo of US startups. The less we compete with others and the more we target our own goals, the easier it is to succeed. India is such a culture.

9.2 RELAX YOUR BANKRUPTCY COSTS

There is a wonderful article written by Augustin Landier, from New York school of business where he deals with the economics behind failure for small startups. The broad conclusion can be paraphrased as Due to an endogenously higher cost of failure, entrepreneurs choose more secure projects in a conservative setting rather than aggressive growth strategies. ... relaxing bankruptcy rules can lead to incentivising the entrepreneurs to take more risks and ergo increase the rate of innovation.

Following the strategy, we need to relax our own bankruptcy costs. For an academic, that would imply having a backup plan. Something that would make us feel that its not that bad if we failed and that we could always try again. It is not so difficult for an academic to find one at grad school, but unless you are a bold throw everything away kind of a pioneer, you shouldn't really begin a new chapter in your life without a backup to fall on to. Unfortunately there are no real incentives to bounce back from an academic failure, all the more reason for the increase in stigma of failure in academics. Relaxing our bankruptcy costs so to speak can help us rid ourselves of this stigma.

9.3 BOUNCING BACK AFTER A FAILURE

We live in a world where one small failure can take us back a long way but it requires a larger success to take us forward by a small margin. That be so, I like to work out worst-case strategies, the worst that would happen if I fail in my PhD now is that I will be another graduate with a master's degree seeking a job. The advantage of doing a worst-case analysis is that it doesn't make the failure look all that bad - a failed PhD candidate sounds worse than a successful masters graduate who attempted a PhD for a while before joining so and so corporation.. Bouncing back after failures are always hard, but for academics, at least in their graduate schools, are not as difficult con-

sidering that it's usually not a lose-all situation as we force ourselves to think they are.

9.4 A REQUEST TO THE ACADEMIC SOCIETY

Throughout academic history we come across great scientists such as Einstein and others who were considered failures (at best ordinary) while at school. While this may be due to various circumstances, we fail to realize that to be a success story in the academic world, one doesn't have to be a prodigy. As was explained in this article the academic standards of standardized tests and curriculum, though are constantly coming down, are often not reachable by some, who might be intelligent but just not interested or are adaptable to such tests. The solution is not to lower the standards and judge people on lower standards, this is akin to pushing the poverty line down and rejoicing that there are less poor in the world. The solution is to change the way we judge and rate students. We need to create incentives for those who are willing to bounce back from what we might think are failures and more importantly be able to recognize the attempt rather than judge the failure. Education costs have to go down, but it doesn't appear that its going to happen, although president Obama's ideas on socializing education seems a step in some progressive direction.

Is often the case that for various reasons schools avoid failing students. It is also a good news that such failure requirements set by schools are too low when compared to the free-market standards of failure. While as long as not failing are our goals we strive hard to remain not just a failure. When we rid ourselves of this stigma of failure and look past towards the horizon, we set newer standards, find newer paths, have unique goals and strive towards them in a more active manner. We won't just be not a failure, but be successes.

My deepest gratitude to all the editors and admins of online forums that I have worked with from 2011 until now. Special thanks to Aditya Vaidya, Kavish Munshi and Kalyan Piratla for welcoming me into ISA and teaching me that *voluntarism is a virtue and not an act*.

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