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It's faith in people."*  
-Steve Jobs



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## PROFESSOR FARID UDDIN AHMED



It gives me immense pleasure to welcome you all to the very first edition of Orbitax SUST SWE Technovent 2023 on 26-28 January 2023. This national-level technology festival is organized by the Software Engineering (SWE) Society of the Institute of Information and Communication Technology (IICT), Shahjalal University of Science and Technology (SUST), Sylhet. I would like to mention that the host discipline SWE is recognized at both national and international levels for its academic excellence and advancement in research and innovation. I am also amazed to see the participation of a large number of students from different corners of our country, which is an indication of the importance and popularity of this event.

In this Fourth Industrial Revolution era, humans have made an immense contribution to bringing out positive changes to the world through information and communication technology. Our nation has a growing IT industry which can prove to be a very significant source of foreign income if proper policies, standards, and guidelines are attained. Orbitax SUST SWE Technovent 2023 will be a gateway for the young, talented tech-enthusiasts of Bangladesh concerning the creation, transfer, and sharing of new ideas, innovation, and insight in the field of Information Technology.

I take this opportunity to thank the valued sponsors for their contributions to organizing the event. My heartfelt thanks to the organizing committee and members of different sub-committees whose hardships have made this event successful. I expect that the organizing discipline SWE might consider making this festival an annual event in the future.

I look forward to a successful conclusion of Orbitax SUST SWE Technovent 2023.

A handwritten signature in blue ink, appearing to read 'Farid Uddin Ahmed', is positioned above the printed name.

PROFESSOR FARID UDDIN AHMED  
VICE CHANCELLOR  
SHAHJALAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, SYLHET

## PROF M. JAHIRUL ISLAM, PHD., PENG.



On the eve of Orbitax SUST SWE Technovent 2023 powered by DSI organized by the Software Engineering (SWE) Society, IICT, SUST, it gives me great pleasure to welcome you all here in Sylhet. I feel very honored and privileged to get the opportunity to organize this mega event. On behalf of the Organizing Committee, I deeply appreciate the extraordinary response from a large number of participants from many institutions in our country.

The Fourth Industrial Revolution (4IR) has already begun. Societies having the ability to make sophisticated scientific discoveries will stay ahead in the rivalry of harnessing the blessings of this revolution. Higher educational institutions have a great role in shaping the faces of the common people by creating new knowledge and cutting-edge technologies. Software Engineering, IICT, SUST has been one of the finest disciplines in Bangladesh of its arena with the mark of its magnificent progress. Various kinds of activities, academic and extra-curriculum, have brought this discipline to both national and international focus.

By participating in the programming contest IUPC, Hackathon, Capture The Flag (CTF), and seminars in the Orbitax SUST SWE Technovent 2023, the young and talented minds of different educational institutions of our country will have the chance to showcase their technical skills and enrich their knowledge which will significantly enhance their creativity. Through participation and organization of such an event, the students get a firsthand experience of leadership and other moral qualities which will help them become better people. IICT, SUST has always encouraged its students to organize and participate in such intellectual and innovative activities and will continue supporting them to do so.

I deeply express my gratitude to Professor Farid Uddin Ahmed, Vice Chancellor, Shahjalal University of Science and Technology for gracing the event as the Chief Guest. Special thanks are due to all the faculty members and students of the Department of CSE, EEE, and SWE, SUST for their tireless effort from the start till the very end of this event. Finally, I gratefully acknowledge the financial contributions and other support from our valued sponsors within a very small timeframe.



# M E S S A G E S

I hope that the participants will enjoy all the events, as well as the overall experience of attending **Orbitax SUST SWE Technovent** 2023 in Sylhet.



MOHAMMED JAHIRUL ISLAM, PHD, PENG.  
PROFESSOR, DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING, AND  
DIRECTOR, INSTITUTE OF INFORMATION AND COMMUNICATION TECHNOLOGY  
SHAHJALAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, SYLHET

## SOUHARDYA SAHA DIP



On behalf of the SWE Society at SUST, I would like to extend a warm welcome to all the judges, guests, and participants who have joined us on the beautiful premises of our university. I would also like to express my gratitude to our invaluable sponsors for your support in hosting our first-ever technovent. The SWE Society is a student-oriented organization made up of students and teachers from the Software Engineering program at IICT, SUST. We began our journey in 2017 with the formation of our first executive committee, and I have been a proud executive member of this organization since my first year.

As students of Software Engineering, the academic pressure can be intense. The SWE Society aims to provide a sense of balance and community for our members, helping to make the experience of university life more enjoyable. From organizing workshops and sports tournaments to national tours, the SWE Society is dedicated to creating a diverse range of experiences for our members.

We live in a rapidly changing tech world, and it is important to stay on top of the latest developments. To this end, we regularly invite experienced mentors and industry leaders to conduct workshops, providing our students with practical experience that complements their academic learning. But we are not just a group of tech enthusiasts - we also make sure to have fun! Throughout the year, we organize a variety of recreational activities such as sporting events, cultural gatherings, picnics, and tours. These activities help to build strong bonds between students of different batches and make the SWE Society feel like a family.

SWE Society has been an integral part of my university experience. I have been a dedicated member of this organization for four years, and despite the time that has passed, it still feels like it wasn't enough. I will deeply miss the engaging discussions with the organizing team, working late at night with them, the rush just before a program, and the overwhelming sense of satisfaction after a successful event. I have always given my all to the organization and have done my best to serve it with integrity and honesty. The SWE Society in return has provided me with invaluable learning opportunities, including honing my leadership, organizational, and pressure-handling skills. Life at SUST has been immeasurably enriched by being a part of the SWE Society, and I am incredibly grateful for the experience.

# M E S S A G E S

I am really happy with how well-known the SWE Society has become in Bangladesh in such a short period of time, and I have no doubts that it will continue its legacy. As I am finishing my term as Vice President, I am proud of what the SWE Society has achieved and I am excited to see what the future holds for the organization.



SOUHARDYA SAHA DIP  
VICE PRESIDENT, SWE SOCIETY  
SHAHJALAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, SYLHET

## MAHFUZUR RAHMAN EMON



4 years have elapsed, full of events, memories, emotions and accomplishments!

I still remember that foggy morning, the very first day of my journey here as a proud student of the Department of Software Engineering. If I look back, since the orientation till today, being a member of the SWE Society was a precious part of my life. From a general member to the general secretary of this society, I must say, this was indeed a wholesome journey! Days have been exceptional here. I got to learn so many things over the years, not only how to be a leader but also how to manage multiple things and how to think meticulously. I wouldn't say days have always been overwhelming. However, handling those complicated situations made me a better person indeed! I am gonna keep the memories and bondings that this campus blessed me with.

The Software Engineering Society has become a core part of my life since my journey. This is a friendly environment for students coming to this department which mainly focuses on the betterment of each and every individual. We attempt to meet their priorities. Many workshops and seminars are being arranged for students to enhance their competitive skills. And I am glad to be a part of these. Organizing technological events was one of the few things I enjoyed most. Aside from machine life, the SWE Society also rocks in organizing sports tournaments, cultural programmes and department tours every year. One thing I must say, being the second batch, it was a challenge to build a strong position in the campus and I've contributed my best. I have seen this little flower grow and bloom within this period. And you can see where we are now. For upcoming days I know the SWE Society, SUST has much more to offer.

As the General Secretary of the SWE Society, SUST, it is my honor to extend a heartfelt welcome to all participants of the upcoming SUST SWE Technovent 2023. The hard work and dedication of our team has been unwavering in our pursuit of making this event a resounding success. We are eagerly looking forward to experiencing the exceptional performances that each of you will bring to the stage. This is a momentous occasion for the SUST Software Engineering community, and we couldn't be more thrilled to have you all be a part of it. Let's make this Technovent the one to remember!

MAHFUZUR RAHMAN EMON  
GENERAL SECRETARY, SWE SOCIETY  
SHAHJALAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, SYLHET





## HOW CAN I BE A SOFTWARE ARCHITECT?

HASAN SHAHRIAR MASUD

CTO AT ORBITAX,

MANAGING DIRECTOR AT ORBITAX BANGLADESH

I often get this question from my juniors, “Masud Bhai, how can I be a software architect?”

I pause for a moment and think about the correct answer. I always felt it was difficult to answer. Students from computer science and software engineering departments can be software architects, but only some become software architects.

Instead of answering the question, let’s analyze how I became a software architect.

A chain of events in my past led me to become a software architect. However, when those events happened, I did not know they contributed to me becoming one. But now I can see the chain of events that might have contributed to it. It’s easier to see the past than the future.

**Failure is not the end of the story:** In 1995, after completing high school, my parents wanted me to become a doctor, and I prepared for the entrance exam for medical college. However, I wanted to study computer science and applied to Shahjalal University, but I failed to get admitted. This failure left me heartbroken and depressed, and I ended up missing the entrance exam for medical college. I did not try for any other subjects at any other university. My family didn't have the financial means to send me to a private institution, and I felt lost and uncertain about my future. I lost a year.

Next year, my uncle told me about a scholarship opportunity in India, and I applied and ended up getting a scholarship for a B.Sc. at Pune University. When I went to the university, I had to choose three subjects from the B.Sc. department, but computer science was not offered as part of that department. I asked other scholars what they had chosen, and they included computer science as their first subject, but I was told it was separate from the B.Sc. department. One of the scholars had a recommendation letter from the high commissioner of India that allowed them to choose computer science, so I changed my first choice to include computer science. Luckily I was at the top of the queue, and I submitted my application having computer science as my first preference.

When the director of the foreign cell saw that I had chosen computer science as my first choice, she said I couldn't have it because it was not a part of the B.Sc. department. I told her another scholar had a recommendation letter saying I could choose computer science. She wanted to see the letter and called the other scholar. After verifying the recommendation letter from the high commissioner of India, she admitted me to computer science at one of the best computer science colleges at the university.

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*Now, 26 years later, I am the title sponsor of the Orbitax SUST SWE Technovent 2023 at the same university where I initially failed to enter the computer science department.*

**Language of Programming:** After my admission, I got the book list and went to the bookstore. I had a lunch invitation at one of my senior's apartments.

I went there with the books I bought, sat in a corner, and opened the first book. It was about Pascal programming. I started reading the book and ignored the lunch party completely. Suddenly, I realized that I knew programming languages. I didn't know all the syntaxes of Pascal programming language, but I knew how the programming languages worked and how to represent logic with the language. I knew the concept behind the language.

The programming language fascinated me, and it felt like I had been looking for this my entire life. I didn't have a computer in my first year. I wrote all my programs with pen and paper. I executed all those programs in my brain and rendered the output in the paper. I debugged the programs, corrected them, and re-run them using my brain, pen, and paper.

*This was the first event that changed my life and my way of thinking, leading me to achieve problem-solving ability using a programming language.*

**Knowing the machine:** After learning the language, I started to look at how this language gets compiled and executed by the hardware. How the keyboard works, how the display works, how the CPU executes, how the network works and how the data is stored on a disk. While working with all this hardware, I could see the bits passing through different devices.

*Understanding how the hardware works allowed me to optimize my logic significantly.*

**Problem-solving:** I knew I was good at programming and solving problems. But I did not find any opportunity to prove it. I did not participate in any programming competitions. We did not have the ACM culture at that time. But during my Master's in Scientific Computing, our director gave us the assignment to find the unique isomers for alkaline. He said he would give a gift from his pocket to whoever could solve carbon chain 20.

Alkaline is composed of carbon (C) and hydrogen (H). Each carbon connects to 4 hydrogens or carbons or any combination. Each hydrogen can connect to only one carbon. So, it has a formula like  $C_nH_{2n+2}$ . For example,  $CH_4$ ,  $C_2H_6$ ,  $C_3H_8$ ,  $C_4H_{10}$ , etc. Isomers are the arrangement of carbon and hydrogen atoms.  $C_4H_{10}$  can have two isomers.  $C_5H_{12}$  can have three isomers. Others have 5, 9, 18, 35, 75, 159, 355, 802, 1858, 4347, 10359, 24894, 60523, 148284, 366319 isomers accordingly.

A month before the master's final exam, everyone submitted their solution. I tried too. After a couple of hours, I wrote a program to find the unique isomers. I submitted my program to the lab and found that my program was the only program that could solve carbon chain ten, which is 75 isomers. I tried for 20, and it did not respond. I came back to my room and started to improve the algorithm.

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After a couple of hours, I found solutions for 11 and 12, but when I tried for 13 and had no results for a long time, I paused for a moment. I calculated the complexity and estimated the time it would take to find all the isomers for 20. I realized that it would take a century. Then I realized why the director had given this problem and declared a gift for solving it.

I got into the problem so deeply that I could not study for the exam. The whole day and night, I worked on the problem. Every time I improved the algorithm, I found improving increasingly difficult. I worked on this problem for 20 days and finally solved carbon chain 20.

I met with the director and asked him to change my solution because I had a better one, which could solve carbon chain 20. He appreciated it. I reminded him about the gift he declared and asked him to write it on paper and sign it. And he did that. Solving this problem almost cost me my master's exam.

We all love solving problems. But most of the time, we do it to get some score or complete a task. To maximize the score or completion of tasks, we often skip complex problems. But leaving a problem unsolved is a poor quality for a software architect.

*Never quit solving a problem because it's complex or has no significant impact.*

**Understanding the domain:** In 2004, one of my friends (Topu Newaj, Executive Vice President, Kona Software Lab Limited) asked me if I wanted to join a project he was working on. His friend and colleague Wahid Choudhury (Founder & CEO of Kaz Software) got the project from a startup called Orbitax. So, Topu Bhai asked me to join the project even though Wahid had a six-month contract with Orbitax. If the project was successful, Orbitax might have a long-term contract.

I asked Topu Bhai what the project was about.

He told me we needed to design an algorithm to optimize international tax for a multinational company, and we had to do it fast.

I asked him if we had to do it fast or if the algorithm had to be fast.

He confirmed that the algorithm had to be fast. We would get sufficient time to develop it.

I accepted the offer even though there was no company. The problem sounds interesting.

But to design the algorithm, I needed to understand how to calculate international tax. I didn't have any understanding of the domain. I had a series of meetings with Don Chung (Co-founder of Orbitax) and Gratian Joseph (Co-founder & CEO of Orbitax). Don sent me books to understand international taxes and how to calculate them. But different countries have different tax laws. There are treaties between the countries which have an impact on tax calculations. There are lots of other variables too. Understanding all these laws and including them in the calculation logic became challenging. While studying the domain, I asked Don and Gratian many questions. They were very passionate about it and explained it to me as much as possible.

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Don once said, “Masud, your understanding of international tax is better than any tax practitioner.”

Once I understood the domain, I started working on the optimization algorithm. While designing the algorithm, I felt similar to what I had during my Master's. But now it's a job. I developed the first algorithm, and it took about two hours for the worst-case scenario. Even though it was faster than our competitor's algorithm, it was still not good enough.

I end up working all day and all night. I thought about the algorithm at home, in the office, or going somewhere in a rickshaw. It had exponential complexity in the number of countries. The sequence of transactions between countries also impacted the calculation result.

After a couple of weeks, I designed an algorithm to solve the worst-case scenario in 8 minutes. Everyone was happy. Gratian gave me a special bonus for the algorithm.

Even though I solved the worst-case scenario, I felt something was missing. It should have taken less than 8 minutes. I continued to work on the algorithm even though the release deadline drew nearer, and I had to work on many other bugs. Even with all these pending tasks, I kept working on the algorithm optimization.

Wahid had a meeting with me and asked me to move on. He said we had achieved the targeted goal, and you got a special bonus. We had to release the application now. However, I refused to stop working on the algorithm.

Gratian called me and asked me to move to other tasks. Tax practitioners could wait for 8 minutes. I told him I was sure I had missed something and that it should have taken less than 8 minutes. I asked him to give me a few more days. Finally, I designed the algorithm to solve the worst-case scenario in 40 seconds.

*Understanding the domain with great accuracy made me a good software architect.*

**Believe it or not, you are not the best:** I always felt a superiority complex in programming. But when I joined a three-day workshop regarding design principal, design patterns, refactoring, and working with legacy code and agile methodology conducted by Naresh Jain, I felt the opposite. Programming is not only about solving problems but also about communicating with other programmers. Programming was indeed an art. Designing the components, libraries, interactions, and future enhancement capabilities for a large-scale application is very important. To do that, we must follow a standard that works like a language among the team members or within different processes. After the workshop, I mirrored that workshop in the office for the engineers who could not join that workshop with me. I practiced refactoring technics, design patterns, and design principles. I improved my coding standard and trained the team too. I also changed how we assigned tasks and how the releases were managed.

*You will always find people who are more intelligent than you. It's an opportunity to improve yourself by learning from such a person. Training your team members based on your best understanding is also essential.*



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**Think outside the box:** When designing our first WPF application called Tax Management Expert, we had a long design discussion. We used UML diagrams, model designs, and lots of different things. But the more we discussed, the more we diverted into different things, and it became a never-ending discussion. So, we decided to do the design in code. I was a part of the design discussion meetings but was not a part of the implementation team. However, I worked on the architecture of the WPF application in my free time and on the weekends alone, even though I was not assigned to do that. When I completed the design, which solved most of the critical design issues, I called the team and demonstrated my design and how it solved all the requirements we discussed. After the demonstration, the team's biggest discomfort was the interface I introduced called IData. It was a dynamic data structure with the flexibility to adopt any type of data structure, and it could be managed in runtime rather than compile time. All the data models were inherited from IData, and all the services were optimized with the IData interface. We are still using the architecture which was designed 12 years ago.

*Sometimes designing a generic architecture solves future problems. We often have to look outside the box and give up the conventional approach.*

**Challenge your architecture:** I often find myself stupid when I look at the design I did earlier. It may have solved the problem when I designed it, but later, when I needed to add new functionality or needed the same architecture in another solution, I found many defects. In many cases, I think from scratch and develop a new architecture. Sometimes another team member notices something in the architecture, leading to a significant change. I always appreciated the issues in my architecture. It doesn't matter if I found the issue or if someone from my team did.

*Don't fall in love with your architecture. Love to change it whenever possible.*

**Take Risk:** In 2013, I became the CTO of Orbitax. The first thing I did was to deprecate two of the most selling products of Orbitax and introduce a new product that provided a framework for all its product suites. It offered a platform to develop new products, including those I deprecated. My partners disagreed with this idea in the beginning. Instead of improving and adding new features to the existing products, I took a risk and designed a new product. Just after releasing the product, it was sold like a hot cake. Still, that product is the primary revenue generator of Orbitax.

*If you are not taking risks, you are not trying enough.*

**Confidence:** In 2015, we had an ample partnership opportunity with one of the biggest financial software firms in the world. I was invited to their office in New York, USA, to discuss the architecture with their senior architects, product managers, and other stakeholders. It was a web application involving massive calculations with sophisticated tax logic, reporting, filing, and workflow. We had to design a full excel-like functionality for the web as well. I confidently presented my architecture and explained how different components would work together to solve the problem. I did not work on any

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prototype or conduct any research to see if the idea would work or not. However, I convinced them, and we signed a partnership.

After returning to Dhaka, I presented the idea to the team, and the team followed my lead and did a fantastic job. We conducted all the research and improved the architecture while designing the application. After multiple development cycles, we released the application, which became the backbone of Orbitax.

Showing confidence to the decision-makers about your architecture is very important for a software architect.

In short, to be a software architect, whatever you do, do it passionately. Don't go for an easy win. Feel the problem domain from your heart. Take risks, appreciate good ideas, and think big. You might not know your full potential yet, and trust me; it's more than you think, and you can be a software architect.



## PREPARING FOR SUCCESSFUL AND HAPPY CAREER

RAISUL KABIR

FOUNDER & CEO, BRAINSTATION-23

### Introduction

Dear students,

I'm privileged to present my thoughts in front of you. I have become little bit successful and want to share what I learned.

Let me introduce us a little bit. I'm Raisul Kabir, BUET EEE 00 batch. I learned programming reading books, don't have CSE degree. Our company is Brain Station 23 Ltd, a 700 people software company (one of the largest for software engineers), working for mostly international clients, like in Germany, Norway, Netherlands, Australia, US, Japan etc. We have some clients in Bangladesh also, like GP, Metlife, The City Bank etc. MyGP, MyBL, CityTouch are some of our known work. Being an outsourcing company, we are continuously working on very interesting international projects from all over the world in Python, Java, ASP.net, Node.js, Flutter, Deep Learning, AR/VR etc. We get opportunity of having versatile experience, from just coding to maintaining from simple to very complex applications, from scaling monolith application to building micro service application from scratch, from e-commerce to ERP, from IoT to complex cloud migration. It's a world inside our company with high career growth, interesting work, with local and international opportunities.

I'll be discussing three interesting points for young graduates -

- Purposeful and happiness
- Hack and improve
- Integrity and care

### 1. Purposeful and happiness

When you are planning for your career, keep a plan about being purposeful. Many famous people, like Simon Sinek, has shared the concept, "Start with why?". What do you want to do and why do you want to do what you want to do. Generally speaking, at the beginning of career, a person should plan on learning well. She/he isn't generally ready for professional delivery. A company invests in building the person. The person starts delivering meeting project requirements, still there are a lot of things to learn that is not visible easily. Frequent switching of jobs would mean not learning well. So, the purpose at the beginning should be learning, invest at least 2-3 years of career into this. Then purpose can be earning money as well as learning. Do you have higher purpose in life? Do you think Allah has given you the knowledge and privilege to serve other people? How are you giving back?

At Brain Station 23, our purpose is creating impact in Bangladesh by creating fulfilling jobs and earning foreign currency. When we bring millions of dollar for our country, or save million to go outside of country, it gives us meaning for our hard work. This has been our goal from the very beginning and now this goal gives even more meaning. When we are directly contributing millions of dollar in economy and giving crores to our people's hand, who supports hundreds of family, there is nothing bigger than that. Our tech leaders create impacts to lot of families when they lead a number of juniors to make a successful product. For this reason, every year we hire over hundred fresh graduates, to grow for international standard software work.

And this bigger than own brings the happiness. There's a rule called "Maslow's hierarchy of needs" where the highest level of need/happiness is when we create something with meaning and purpose. We believe life is a journey so it has to be fulfilling and happy. That's why we only work with clients who respect us and work on areas which makes us most happy.

## 2. Hack and improve

There's this concept of 10X programmer, that some people are so amazing that they can hack into ways to make things 10 times faster than others. As a programmer, I wish you to keep an eye on this.

There can be platforms like Django, Laravel, which can make development faster. Using these platforms to make a solution is what I call hacking for quick delivery. Client sees the output faster and then we improvise. Believing in true agility, embracing the changing of requirements. Real life is like that. You of course remember how decisions were changing during Corona time. Real life is full of change. So, hack the way to make things blazing fast.

When I was student, my friend Mizan brought me a Patient information management system, a Swedish project, with 60 page requirement, that needed to be done in 4 days. I couldn't do it in 4 days, but I could deliver in 5 days. During that time, I created an amazing framework that allowed to make things super fast. One of the hack was, I made a function call `addEditTable` where if I pass a table name, it would generate full crud and optionally passing some variables it can make a CRUD with upload functionality, with image optimization and thumbnail generation, with rich text editor, linking with other table bringing drop down or radio button etc. This library served me and BS23 from 2004 as student till 2011 as company where I would deliver miracle, delivering applications at lightning speed.

Now of course many such frameworks exist. So, in 2015 a Dutch client contacted us to make an urgent software. One of our colleagues, named Atish, (who later became faculty of Jessore University) using ASP.net MVC delivered the application in 3 days, which another company told can't be done before 4 months. This way we won the client and they have been our trusted client since then.



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Another example is, when google developer, Misko Hevery, claimed that he can rewrite in 10 days an entire application made by other google developers over 6 months. He couldn't do in 10 days, but in 3 weeks, 15 days. That's the hacking mentality!! (<https://qr.ae/prybxq>)

So, hack your way and then improve things for better. That's how you stand out and show the world you are a 10X!

### 3. Integrity and care

Final advise that I wish to share with you all is integrity and care. People think that someone can become successful by dishonesty, but it's a wrong concept. Honesty and integrity are the core virtues by which someone can be successful. Warren Buffet has this saying (and I feel the same as well), "Look for 3 things in a person - intelligence, energy and integrity. But if integrity is missing, don't bother with other two." Because really it doesn't matter.

That's why we are very careful of meeting all the promises, all the commitments we make. Because once the trust is gone, then everything is gone.

Sometimes we sadly notice, a developer while changing job doesn't tell the truth. What they miss is - sometimes this lie hurts because the trust is broken. We should always care for people and be honest in our activities. Interestingly, people don't know but that's the only way to become successful. When we care for people, people care for us back. We have so many developers who worked with us for long years, till they left industry or left country. For example, Kamrul Alam, CSE AIUB, was our colleague from 2007 till 2022 and many others, like Hassan, Munim, who as long as were in BD has been working together. Many of our current colleagues are 5/6 years together. Because of this integrity and care - we care for each other beyond rational.

### Final words

These are some soft skill and mindset advice. General CSE advice your teachers and alumni are already giving so from being a CEO point of view, from 20 years of experience as programmer, tech leader, entrepreneur, I shared these views with you all. With these, of course, continue to do lot of hackathons and ACM contests, as well as, if you get a chance, start working part time with projects, make startups, so that when you graduate, you become "Experienced fresh graduate". Happy coding :)



## THE DREAM THAT MUST LIVE ON

MOHAMMED RAIHAN ULLAH  
LECTURER, IICT, SUST

It is December 2022. Oh boy! Messi has conquered his final peak. What a beautiful, gorgeous moment that was! Although I am a die hard fan of Brazil, I couldn't help but rejoice in this rare historic event. Messi proved that if you are compassionate enough to achieve something, no matter whatever the odds are against you, every particle around you will push you eventually to catch what your heart most desires.

So, Messi had his odds. Let's come back to the context of our students' life and think what odds they frequently face against their own goal post!

### **Bottlenecks**

It is a common scenario where students get overwhelmed by the academic activities of the university. Unlike higher secondary school where syllabus was confined to limited contents, universities tend to have a broader one to explore. Besides, the time is also limited and tighter than the other lower academic level. That's why very often they can't cope up initially and lag behind which eventually leads them to disappointment.

The opposite case can also be found. The university has its limitations like lack of faculty members, insufficient classroom or lab facilities, etc. There are students who are not satisfied with what the university could offer. They look for more but often it is seen that the university can't meet those students' unquenchable thirst.

So these are the two types of bottlenecks that can be seen in the communication between academic activities and students' potential. The first one can be mitigated by the sheer amount of hard work, determination and patience. They will cope up in no time if they focus on the everyday progress and baby steps they make from time to time. The second type of bottleneck is a bit difficult to solve as it is caused by the university itself. So what should the students do? Well firstly they should keep their academic activities on track. Secondly, in this modern era of communication, there are enormous amounts of resources available that could keep him busy for a lifetime. Besides, they can reach out to the seniors and experts if they seek any sort of guidance. It is an open world nowadays.

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## DeadLock

Another common confusion students face is to maintain balance between academic study and skill acquisition. In our discipline, students have to put in a huge amount of effort and time to master fluency in programming. So quite often they struggle to manage the academic activities like quiz, class tests etc. Many found that if they go for programming skill, the CGPA is deteriorated. If they go for CGPA, they fail to acquire enough knowledge on programming. So a deadlock occurs in their head about what to choose between them! There seems to be a trade off between skill acquisition and good grades. Which is not true actually. The key to break this deadlock is to remain disciplined. A student must practice programming daily. No compromise in coding practice. Besides, if he studies on a regular basis at his convenience, it should not be hard to maintain a good grade. The common reason behind bad grades is to pile up the study work to be finished before the exam! So avoid this practice.

## Out of Sync

One familiar thing in university life is that students think that they have to work less in university than other academic levels. So they start taking the classes and lecturers very lightly and do not follow up on those lectured contents after classes. Which eventually leads them to get out of sync. Slowly the distance grew and suddenly they found themselves in the middle of nowhere and didn't have any clue how to get back on the right track.

Again, to solve these issues you need a disciplined life. You don't need to study day and night everyday to get good grades. All you need is to be aware of what is happening around you and keep yourself updated with the academic pace.

## HeartGPT <3

Well, these types of issues seem like different contexts but they play a significant role in the progress of a student's career. We have our emotions and that's what makes us feel our life in a very unique way. There are situations where we face personal or family or social issues. These issues could happen from financial instability to failed affairs. We might have lost our dear ones which could tear our world upside down. These types of occurrences give us an enormous amount of stress and sorrow which have the strength to destroy our academic life.

This emotional barrier is very hard to overcome. You have to be tougher than you have ever been. You need to survive and rage against those darkest nights of your life. You need courage. You can do it and you will insha'Allah. Messi lost four finals with Argentina and his heart was broken four times. But he finally won his final piece. I know these are different in context but it is life and it has its ups and downs. You just need courage to walk through those darkest lanes of your life.

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## **!Machine-Learning**

Quite often we measure our progress based on other people's achievements. When you see your friend has learned 3 new things and you don't know them, you can think that you are lagging behind him. But maybe you don't have interest in those things or maybe you know some other things that your friend doesn't. Everyone's path is on a different timeline. They are not parallel to each other. You are on your own. You need to focus on the progress you already have and what you can do to boost it up. You may have lagged behind on a tiny scale but trust me, in this grand calculus of this universe you may never know where you will end up. Keep your hope up and most importantly learn about your potential and limitations. Give special customized treatment on your lackings. So knowing thyself is the key to win in the long race.

## **Return**

We find obstacles and barriers in our lifespan from time to time. Some problems may seem impossible to overcome. Sometimes we slip and it seems like it is the end of the world. But "Why do we fall, Bruce?", "So that we can learn to pick ourselves up." Be the Messi of your life. Know that if you let yourself down, your day will pass too. But if you pick yourself up, give another try, you have a chance to live your dream. You should be hopeful that the better days will come. Keep trying. Don't rush. You may get tired of trying. If you get exhausted, take a break, look around once in a while. Feel the energy of the speed of life. Life may move pretty fast. You need to slow down sometimes to look around and try to have peace of mind. You could miss that one day. Most importantly you need to dream that you will one day, eventually shake hands with paradise and that prominent, eternal dream must live on!





## DOES CGPA MATTER IN TECH INDUSTRY?

PARTHA PROTIM PAUL  
LECTURER, IICT, SUST

CGPA, or Cumulative Grade Point Average, is a measure of a student's overall academic performance. While it is a commonly used metric in academia, it is not always a requirement for getting a job in the software industry.

First, let's look at why maintaining CGPA is important. A high CGPA may indicate that a candidate has strong analytical and problem-solving skills, as well as a good understanding of the principles and technologies used in their field. These are important qualities for professionals in the tech industry, as they are often required to solve complex problems and work with cutting-edge technologies.

Second, a high CGPA may also indicate that a candidate is diligent, hard-working, and able to handle a demanding workload. These are valuable qualities in the tech industry, where professionals are often required to work long hours and meet tight deadlines.

Finally, a high CGPA may also be seen as a sign of competitiveness, as it demonstrates that a candidate was able to excel academically among his peers. It's attractive to companies looking to hire top talent.

Now let's look at the other side of the coin. One reason why CGPA may not be mandatory for the software industry is because it is just one factor that companies consider when evaluating job candidates. In the software industry, practical skills and experience are often more important than academic achievements. Companies want to hire professionals who can hit the ground running and contribute to their projects from day one. As such, they may be more interested in a candidate's portfolio of work, internships, and other experiential learning opportunities, rather than their CGPA.

Another reason why CGPA may not be mandatory is because the software industry is constantly evolving. New technologies and trends are emerging all the time, and companies need professionals who are able to adapt and learn quickly. As such, they may be more interested in a candidate's ability to learn and adapt, rather than their CGPA.

Now think of a scenario where you own a software firm. You want to hire fresher software engineers. There are almost 200+ responses to your post. You can only interview a handful number of people. There are very few people who have done remarkable projects during his/her undergrad life., some have high CGPA and others have none (neither remarkable projects nor high CGPA). So how will you sort the candidates for the interview? Think & you will understand the answer.



## STARTING A STARTUP, TRANSFORMING DREAM INTO REALITY

RAFIUL ISLAM (SWE'16)

CO-FOUNDER & CHIEF SOFTWARE ENGINEER,  
LOGIQBITS

People never stop dreaming and believing. I am not the excepted one. Our generation saw the growth of the 3rd industrial revolution, which is the rising of Information Technology. By surrounding, I was very fond of technology. Though, having a computer or a good functional mobile phone was very tough then. I got a personal laptop to use in 9th standard, then I started dreaming about doing something great like Microsoft did. This was the first time when I thought that starting something like Microsoft would be great.

When I was in college, I used to think about what I could do with technology after my college. I started dreaming to build a technological company where I would build great things for a better life and technological access for human beings. In my leisure time, I tried to find out a better name for my dream company, I found some interesting names, but those were already taken. This cycle continued throughout my college period.

Then by the grace of Almighty, I got a chance to transform my dream into reality by getting admitted into the Dept. of Software Engineering at Shahjalal University of Science and Technology.

Then I was starting introduced to technological things. In my first year of university, when I started to learn programming and other computing concepts, I realized that building something that I dreamt of was impossible to make happen. Besides, compete myself with other talented students was also hard for me. So, I take a chance to follow the path of my dream.

As a fresher, I didn't have any good programming skills as well as technical knowledge. So, it was very tough to plan something specific to build. So, I started to find out my personal requirements so that I can build something for myself because to build a solution we need to find the problem first. I started to build various programs/applications. Through these processes, I had to learn about various tools and technology; including programming too.

Over time, my interest in building something of my own is getting better and better, just like a good relationship. In 3rd year of university life, I found something interesting to build for others, an online marketplace for businesses where a business can operate its own operations with fully featured e-commerce. Simple, an electronic version of a shopping mall where multiples shops will be available for rent so that business can operate their own operations. I was planning to build that electronic shopping mall, and I'll rent electronic shops to businesses. I built a web application based on that concept and

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named it “Sakkhat”. I shared this with my friends and close circles, they appreciated this. But now still that implementation was just an application, not a product because the end-user was not using the app. So, I decided to contact some people who are running Facebook pages and selling their products. I contacted many of them, but very few understood what was the purpose of that application. When my final exam came closer, I stepped down with this concept.

I almost gave up on the concept, but I never gave up on the passion that I have to build something of my own that others can use.

In my last days of university, one night one of my relatives (my cousin's brother) called me, he was looking for a software developer who can build a prototype of a concept for him. Before going further, I want to confess that I saw the first laptop in my life with him at his office in Banani, Dhaka. It was an ACER laptop; an optical mouse was connected to it. He used to talk about doing something on his own also. Then one day after a long discussion we agreed to team up and started to plan for a startup company.

After graduation, I got some opportunities to have a handsome job. Almost everyone suggested me to have a job, continue it for a couple of years, and then try for a startup. It was a very hard time for me because for someone who came from a middle-class family, it was a natural decision for his/her to take a job. I had to choose either my dream or a regular path where I had to go for a job.

To go for a job and then plan for a startup after a couple of years was something like forgetting my soul for a couple of years. I know this is a no-risk choice, as by my job I'll have good engineering experience as well as industrial experience that how a business actually runs. I was a fresh graduate student, didn't have mature engineering experience, no idea about business, especially in Bangladesh.

But living without a soul is impossible. I was clear on one thing, I could make something in 2–4 years, and I could do something with my life. I rejected my job offers and decided to go for a startup.

I discussed this with some of my close friends so that I can make a small team. Then I built a small developer team and we started exploring various concepts and trying to implement them.

Initially, we were not looking for software outsourcing work or deals. As a newbie, we started to build some prototype projects for both local and international industries.

After investing almost one and half years, we build multiple products and prototypes and made a colorful portfolio. Then we registered as a private limited company and name it ‘LogiQbits Limited’ which was a massive milestone for us.

In this investing period, we completed some small deals which encourage us to explore more into multiple industries.

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LogiQbits main vision is to provide full technical support for other startups and build custom solutions for businesses. Now in LogiQbits, we have multiple vertical products that we build.

Now after 3 years I have again come out with my previous plan “Sakkhat” in “ShopAP” as nowadays people are known about similar applications like “Shopify”, and “Shop Rocket”.

At this point, I can remember a speech by ‘Steve Jobs’ which I listened to many times in my university life, “Don't lose faith. I'm convinced that the only thing that kept me going was that I loved what I did. You've got to find what you love. And that is as true for your work as it is for your lovers. Your work is going to fill a large part of your life, and the only way to be truly satisfied is to do what you believe is great work. And the only way to do great work is to love what you do. If you haven't found it yet, keep looking. Don't settle. As with all matters of the heart, you'll know when you find it. And, like any great relationship, it just gets better and better as the years roll on. So keep looking until you find it. Don't settle.”

We are just about 2 years old company, we are not a well recognize company, we don't have a good footprint in the local industry as well internal, in various aspect we may not be a successful company, but throughout the journey, I can say Insha'Allah we can touch those milestones very soon.

Starting a startup firm is easy, but doing business is not. Business is a very different thing. In software engineering we learned that in software the codebase or coding part is 5-10%, rest is the other things like requirement analysis, design, and documentation.

In business the ratio is similar, your product or your application is 5-10% of your business rest is the other things and the most important thing is the marketing and the community.

Before starting, a startup firm, make a team with various sector people. Because building a program or application is not enough. You need someone who can sell that application.

## FAQ

- Do you prefer startup at an early age or after graduation?
- As I am someone who didn't listen to someone and choose my path by my choice; then how can I encourage someone to follow my direction? I never encourage anyone to take decisions by others' choices. You can take my suggestion, my experience but the choice is always yours.

“Don't let the noise of other's opinions drown out your own inner voice. And most important, have the courage to follow your heart and intuition. They somehow already know what you truly want to become. Everything else is secondary.” --- Steve Jobs





## PREPARATION FOR HIGHER STUDY

RAFA TASNIM (SWE'16)

MSC STUDENT, UNIVERSITY OF SASKATCHEWAN

Hi! To be Software Engineers! Researchers! Or what else should I call you guys? I hope you guys are all well. I am Jarin (SWE 16, 1st batch, currently pursuing an MSc. in Computer Science at the University of Saskatchewan). Here, I answered some basic questions individuals seek while making their first attempt to go for higher studies after undergrad. I hope you enjoy reading the rest of the article.

### 1. Where should we go? Canada, USA, or Germany?

This is a vague question. It's your life. You have to decide where you want to live. I can just assist you by showing you the facilities you get if you choose any of these options.

If you admire high-tech companies and are willing to face the prolonged struggle for citizenship, go to the USA. If your intentions are more driven toward settling yourself down, achieving citizenship, a peaceful lifestyle and of course cold doesn't matter to you, welcome to Canada. I can help you onboard here. If you have a hefty amount of money in your account (approximately 11 to 13 lacs) and don't want to put the effort into IELTS/GRE (6/6.5 is enough for Germany), choose European countries. Trust me, Europe is beautiful and you will like it.

Concerning North America, there are better opportunities in the USA than in Canada. Toronto is the 3rd tech hub following New York and California. However, Canadians are more friendly and polite than Americans. Health benefits in Canada are also more accessible and better than in the USA.

### 2. Which semester should we target? Fall / Winter / Spring?

The majority of the Universities provide admission for international students in the Fall semester (August- September). Mostly, Fall terms offer more opportunities in terms of funding. But I started in the winter semester because my professor wanted me to. Certain possibilities may be awaiting you in winter, however, they are few in comparison with falls. So definitely you should target the fall semester.

### 3. When should we apply to catch the fall semester?

Suppose, you are targeting Fall 2023, you should prepare all your documents by August 2022. From my point of view, you should apply between September 2022 to January/February 2023. I know, some universities keep their admission portal open during March/April (like NMSU). But targeting that time is risky because most of the university's admission deadlines will be over by that time and you will be left out of choice. Furthermore, If you start early, you will have lots of blessings in hand (Like some universities offer Application fee waivers, GRE waivers, etc). I mean who doesn't want to uphold these advantages?



## 4. What documents does one person need to apply?

I am listing them

1. Transcript softcopy
2. IELTS certificate
3. SOP/SOI (Statement of purpose/Intent) - It's a document where you elaborately describe your academic journey, your skillset, your strength, and your passion for your chosen topic (HCI/NLP). why do you like that topic? Why do you want to do the higher study? Why this university? Why this professor should take you?
4. CV (Curriculum vitae)
5. Writing sample (Published paper if any) - Optional
6. GRE score - Optional
7. Personal Website/Project links - Optional

Those things that I said are optional and are often demanded by some universities. It is contingent on where you are applying. GRE is mostly required when you are targeting the USA. For Canada, I would say if you have a good overall profile, you don't need GRE unless you are aiming for UofT/UWaterloo. Even famous universities like Dalhousie University, University of Alberta, University of Saskatchewan, and McGill University don't require GRE.

## 5. Should we directly apply to the university or try to manage Professors first for funding?

If you are applying to universities in the states, I would recommend you rely on central funding. Because when I was applying, I noticed a certain trend. I have seen several professors in the states mentioned on their website to knock them after you apply. You can do that as well. But if you target Canada, I would say try to manage a professor before applying to secure funding.

Now you might be wondering how to manage a Professor. First, identify what domain you are going to work in. NLP? ML? HCI? If you are inquisitive about NLP, try to make a list of professors from diverse universities researching NLP. Dig into their profile, explore their research paper and mail them. Mention in the email what you like about their paper, and how your research motivation matches with them.

## 6. What you should include in the mail?

Let me list down some facts that you must incorporate when you mail a professor :

1. A brief description of what his main research focus is
2. Why are you particularly interested in working with him?
3. How do his and your research interests match
4. Why should he/she take you? Do you have any previous work that reflects that you have fundamental knowledge in that research area? Any publications? Any major achievements?
5. A summary of your profile (IELTS/GRE test score, grades). You should include your website if you have one.

## 7. How hard is it to get full funding for a master's?

If you have a decent profile and you compose all the documents properly, trust me it's easy. Almost everyone in my lab came here with scholarships, so don't worry. All you have to do is to be patient when the professors don't reply to your emails and keep trying. Motivate yourself to face these no-reply days. You are good to go.

## 8. What kinds of profiles do you need to have for full funding?

For those who have a total CGPA of around 3.3, but scored well in the last few semesters (3.6+), What is the probability of them getting full funds?

There is a typical misconception that CGPA is the only facet dictating the probability of scholarship, whereas It's not. Getting a scholarship from a specific institution depends on how strong your profile is from that institution's perspective. Suppose, You have a CGPA of 3.4 with a GRE of 320+ while some other guy has a CGPA of 3.7 with no GRE score. Maybe there is a possibility that they would fund you rather than that guy. It depends on your overall profile, institution ranking, professor ranking, and perspective. So, don't just consider CGPA, take other factors into account as well.

## 9. A broad description of funding? Am I required to apply for them separately? The amount of funding? When and how will I know about admission confirmation?

A broad description of funding and its amount: As a welfare country, funding in Canada is designated in a way for each grad student that the given amount will let you satisfy all basic needs but you won't be able to afford luxury or save any money. For instance, in USASK, you get 1700+ CAD/per month as RA. You have to save around 700 CAD for tuition fees so you are left with 1000 bucks for monthly expenses (Which is very less considering the rent for one person is around 650 CAD and other utilities and food eat up the rest). If you could manage a semester-specific TA, you will earn more (like 25+ CAD per hour). So try to manage some external TA options UBCO (University of British Columbia Okanagan) offers a similar kind of funding package as well. In addition, there are departmental and federal scholarship opportunities. Search for them, publish your work, and try to claim them once you get into the department.

I think US universities are pretty much similar. However, I have seen exceptions as well. You will get more funding if you get into some labs. For instance, A lab from X university provided me with a 19k+ surplus on top of living costs per year whereas when I talked to another CS grad student from another lab of the same university, I found out he didn't have any surplus. So, the funding amount depends on the lab, the funding available in your professor's hand, etc

## 10. Am I required to apply for them separately?

Once you manage a professor, he will ask you to apply to the university. You don't need to apply for funding separately. However, you have to note your professor's name in SOP also in the application process. Then the admission committee will directly contact your professor. If he/she acknowledges you, normally they proceed with your admission.

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If you apply centrally, it's also fine. The admission committee will evaluate your application and direct your application to your preferred Professors whose names you wrote down in your SOP. If any professor prefers your profile, he may ask for an interview or may not. If they choose you, you will get admission and funding accordingly.

## **11. When and how will I know about admission confirmation?**

They will email you about admission or rejection. Once admission is confirmed, they will send you another email regarding the monetary settlement. It's called I20 (in the USA) or financial form (in Canada)

Reliving admission status takes time. Approximately 3-5 months.

## **12. Once admission is confirmed, What documents do you require to apply for a VISA?**

Again depends on where (USA/CANADA) you are applying, whether you are funded or not, whether you did a job in Bangladesh (tax assessment), whether you are applying alone or with your wife, who is sponsoring you (Bank statement)

If you opt for Canada, I would recommend you to join this group “Prospective Bangladeshi Students in Canadian Universities”. I did my entire visa application by reading the documents provided in this group myself. So I believe you can as well.

Concerning the USA, I recently faced a visa interview. For me, it required much fewer documents than Canada as I am a Canadian study permit holder. As you guys will be applying from Bangladesh for the first time, I guess applying criteria would be different. I would recommend you to join this group “NexTop-USA (Higher study in the USA)”.

## **13. Overall, how much money do you have to spend from your pocket to study abroad?**

If you are not funded, you have to pay for your living and tuition from your pocket. Let's say you are funded, you at least need some miscellaneous amount of money to go there and start your grad life:

1. Visa application fee (300 to 400 CAD) For a US visa application you have to pay a SEVIS fee (600) as well
2. Air ticket cost (differs based on time and airlines). I would say try to book one or two months prior (around 2000 to 2500 CAD)
3. You should try to bring the first 4 to 5 months of living costs with you. But I am only considering the least (one month) living cost - It varies from place to place. So do your homework and calculate. On average, I consider 1500 CAD
4. First Grocery and set up - keep 600 to 700 CAD

So I believe for Canada you should at least manage 4400 CAD, which is around 3.2 lacs BD taka that will cover your airfare and first-month accommodation. Obviously, within this time, you have to set up your account and fund setup here.



## REMOTE JOB EXPERIENCE AND SUGGESTIONS

KOUSHIK SARKER (SWE'16)  
SOFTWARE ENGINEER, LIQUIDX STUDIO

As a software engineer with three years of experience, I've worked in a local software company as well as two remote jobs. My first remote job came from a referral from a senior colleague, and my second came from another referral. I was fortunate to have a good work environment with less workload in both of these remote jobs, as well as the opportunity to work with cutting-edge technologies and amazing people from all over the world.

One benefit of remote work is the increased flexibility it provides in terms of work environment and schedule. You can work from anywhere, including your home or while traveling, if you have a reliable internet connection. This is especially useful for those who prefer a non-traditional work environment and who have commitments or responsibilities outside of work that make a traditional 9-5 schedule difficult.

Remote work can also result in higher salaries when compared to local companies, as well as potential cost savings on things like commuting and office space. This can be a significant benefit for software engineers in countries such as Bangladesh, where the cost of living may be lower than in other countries.

In addition to the financial and logistical benefits of remote work, it can also provide the opportunity to work with cutting-edge technologies and collaborate with amazing people from around the world. Working remotely allows you to expand your professional network and gain exposure to diverse perspectives and approaches to problem-solving.

While remote work has many advantages, it is important to note that it may not be appropriate for everyone, particularly those who are just starting out in their careers. As a software engineer, I believe that freshers should first consider gaining experience at an on-site job to learn about company culture and to learn directly from a mentor. This can assist them in gaining a solid foundation of knowledge and skills before transitioning to remote work.

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So, how can software engineers in Bangladesh find opportunities for remote work? Here are a few suggestions:

- **Network and connections:** Attend industry events, participate in online communities, and network with professionals in your field to learn about potential job openings or referrals. Many companies prefer to hire people they know or who have been recommended by someone in their network, so these connections can be especially useful for finding remote work opportunities.
- **Use job search websites and platforms:** There are lots of websites and platforms dedicated to remote work, such as Remote.co, We Work Remotely, and Indeed. These can be a great resource for finding job openings and companies looking for remote workers. It is also necessary to maintain the LinkedIn activity with specific skill sets. Because many recruiters are always looking for good candidates, there is a good chance of being noticed by them.
- **Consider freelance or contract work:** If you're not ready to commit to a full-time remote job, consider taking on freelance or contract work as a way to gain experience and build your portfolio. Toptal and Turing is one of the best platforms to try for this type of opportunity.

Overall, remote work can be a great option for experienced software engineers looking to gain flexibility and work with new technologies. With strong communication, collaboration, and self-management skills, it can be a rewarding and fulfilling experience. By networking, using job search resources, and considering freelance or contract work, software engineers in Bangladesh can find opportunities to join the growing trend towards remote work.





## GRATITUDE TO SUST SWE

MARAZ MIA  
SWE'17

I am very vivacious about my affiliation with Software Engineering at Shahjalal University of Science and Technology as this faculty has always supported me with a myriad of opportunities and flourished me with their philanthropic activities. I lucidly remember my first day in this department because of the effusion of that event as I was a young, potential first-year undergraduate student and had the prodigious occasion to meet with some of the brightest people in Bangladesh. All the faculty members, batch mates, and my fellow juniors are far above any other quintessential people I have met so far. At the end of the day, SWE is replete with sublime institutional amenities, erudite faculty members, profound academic syllabi, internship opportunities, and an amicable environment for everyone. So, without any vacillation, I promulgate that it was a sage decision of mine to be part of the SWE Family. My wild suggestion for any prospective student; with an insatiable thirst for Software Engineering, would be a succinct one-liner that is “SUST SWE, for your provident future”.

## **HACKATHON**

36 hour long collaborative contest to build new web and mobile services

## **INTER UNIVERSITY PROGRAMMING CONTEST**

Contest between university students to test and showcase their programming skills

## **CAPTURE THE FLAG**

Cybersecurity competition where participants have to exploit or hack the system to get a flag

# JUDGE PANEL

## CEFALO SUST INTER-UNIVERSITY PROGRAMMING CONTEST JUDGE PANEL:

### CHIEF JUDGE:

DR. MOHAMMAD KAYKOBAD,  
DISTINGUISHED PROFESSOR,  
BRAC UNIVERSITY

### JUDGE CO-ORDINATOR:

TARIF EZAZ,  
SOFTWARE ENGINEER AND CO-FOUNDER,  
AUBICHOL INTELLIGENT TECHNOLOGIES

### PROBLEM SETTERS & JUDGES:

1. MAHMUD RIDWAN, CEO AND SOFTWARE ENGINEER, FURQAN SOFTWARE LIMITED.
2. SHAJIA ANNOOR, CO-FOUNDER AND SOFTWARE ENGINEER, AUBICHOL.
3. MD. BAKHTIAR HASAN, ASSISTANT PROFESSOR, ISLAMIC UNIVERSITY OF TECHNOLOGY.
4. TAHSIN MASRUR, SOFTWARE ENGINEER, GOOGLE
5. MD. HASINUR RAHMAN, SOFTWARE ENGINEER, KITE GAMES STUDIO.
6. MOHAMMAD ABDULLAH MATIN KHAN, SOFTWARE ENGINEER AND CO-FOUNDER, AUBICHOL INTELLIGENT TECHNOLOGIES.
7. RISAL SHAHRIAR SHEFIN, SOFTWARE ENGINEER, ENOSIS SOLUTIONS.
8. AMIT SARKER, SOFTWARE ENGINEER, SILICON ORCHARD LIMITED.
9. SHAFAYET HOSSAIN MASUM, SOFTWARE DEVELOPMENT ENGINEER, AMAZON BUSINESS
10. RAFID BIN MOSTOFA, SOFTWARE ENGINEER, CANONICAL LIMITED.
11. RAYHAN CHOWDHURY, SOFTWARE ENGINEER
12. OVISHEK PAUL, SOFTWARE ENGINEER, REPLO
13. TAHSEEN RASHEED CHOWDHURY, UNDERGRADUATE STUDENT, SWE, SUST
14. TASDIDUR RAHMAN, SOFTWARE ENGINEER, APPSCODE INC.
15. UTTOM AKASH, SOFTWARE ENGINEER, CEFALO
16. AHMMED SAKIB NOMAN, UNDERGRADUATE STUDENT, STAMFORD UNIVERSITY BANGLADESH.

### CAPTURE THE FLAG PROBLEM SETTERS:

1. REZWAN MAHMUD FAISAL, UNDERGRADUATE STUDENT, SWE, SUST
2. SHASWATA DAS, ASSOCIATE SOFTWARE ENGINEER, ORBITAX

# JUDGE PANEL

## BRAIN STATION 23 HACKATHON JUDGE PANEL:

### JUDGING DIRECTOR:

DR. MD. FORHAD RABBI, PROFESSOR,  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (CSE),  
SHAHJALAL UNIVERSITY OF SCIENCE & TECHNOLOGY

### JUDGES:

1. FERDOUS MAHMUD SHAON, MANAGING DIRECTOR, CEFALO BANGLADESH LTD.
2. MOJAHEDUL HOQUE ABUL HASANAT, CHIEF TECHNOLOGY OFFICER AND CHAIRMAN, DYNAMIC SOLUTION INNOVATORS LTD.
3. RAISUL ISLAM, STRATEGIC BUSINESS UNIT HEAD, BRAIN STATION 23
4. MD. MAHFUZUL ISLAM BHUIYAN, TECH LEAD, BRAIN STATION 23
5. FUAD AHMED, ASSOCIATE PROFESSOR & HEAD, DEPARTMENT OF SOFTWARE ENGINEERING, METROPOLITAN UNIVERSITY, SYLHET
6. AYESHA TASNIM, ASSISTANT PROFESSOR, DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (CSE), SHAHJALAL UNIVERSITY OF SCIENCE & TECHNOLOGY
7. SAYMA SULTANA CHOWDHURY, ASSISTANT PROFESSOR, INSTITUTE OF INFORMATION AND COMMUNICATION TECHNOLOGY, SHAHJALAL UNIVERSITY OF SCIENCE & TECHNOLOGY
8. SHAMIM AHSAN SHAON, PRINCIPAL SOFTWARE ENGINEER, ORBITAX
9. TOUHIDUL ISLAM, STAFF ENGINEER, PATHAO
10. ERSHADUR RAHMAN TALUKDER, CO-FOUNDER, INVERSE.AI
11. RAFIUL ISLAM, CO-FOUNDER, LOGIQBITS LIMITED
12. AHSAN AZIZ ISHAN, SOFTWARE ENGINEER, ROCKETML
13. KOUSHIK SARKER SEEMANTO, SOFTWARE ENGINEER, LIQUIDX STUDIO
14. NAYEEM AHMED, SOFTWARE ENGINEER, LIQUIDX STUDIO

# UPDATED SCHEDULE

DAY 1  
**26**  
Jan

**07:00 PM**

Hackathon Team Reporting,  
Registration, Kit Collection

**08:00 PM**

Brain Station 23 Hackathon starts

**10:00 PM**

Dinner

**09:00 AM**

Breakfast

**09:30 AM**

Inauguration Ceremony

**10:30 AM**

IUPC Team Reporting, Registration, Kit  
Collection

**11:00 AM**

Cefalo SUST Inter-University  
Programming Contest (Mock) Starts

**12:00 PM**

Cefalo SUST Inter-University  
Programming Contest (Mock) Ends

**01:00 PM**

Lunch and Prayer break

**02:00 PM**

CTF Team Reporting, Registration, Kit  
Collection

**02:30 PM**

Capture The Flag Starts

**03:30 PM**

Seminar

**10:30 PM**

Capture The Flag Ends

**10:45 PM**

Dinner

DAY 2  
**27**  
Jan





# UPDATED SCHEDULE

DAY 3  
**28**  
Jan

<b>08:00 AM</b>	Brain Station 23 Hackathon Ends
<b>08:15 AM</b>	Breakfast( For Hackathon Participants Only)
<b>08:30 AM</b>	IUPC Registration
<b>09:00 AM</b>	Cefalo SUST Inter-University Programming Contest Starts
<b>01:00 PM</b>	Lunch ( For Hackathon Participants Only)
<b>03:00 PM</b>	Cefalo SUST IUPC Ends & Lunch ( For IUPC Participants Only)
<b>03:15 PM</b>	Seminar
<b>04:00 PM</b>	Closing and Prize Giving Ceremony



# GALLERY



**SWE'16 BATCH**



**SWE'17 BATCH**



**SWE'18 BATCH**



**SWE'19 BATCH**



**SWE'20 BATCH**



**SWEE**  
ociety



since  
2001

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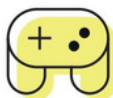
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