

■ INTERVIEW ■

BUET's journey to ICPC GLORY

A conversation with team coach M Sohel Rahman

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The team "BUET Potatoes", consisting of Kazi Md Irshad Farooqui, Md Sabbir Rahman, and Sk Sabit Bin Mosaddek, from Bangladesh University of Engineering and Technology (BUET) was crowned the Asia West champions at the International Collegiate Programming Contest (ICPC) World Finals 2023, held in Luxor, Egypt, from April 14 to 19, 2024.

In the global tournament known as the World Cup of competitive programming, the team secured a global position of 28 out of 124. In light of this historic achievement, Campus sat down with Dr M Sohel Rahman, a professor at BUET's Department of Computer Science and Engineering (CSE), Fellow at the Bangladesh Academy of Sciences, and team BUET Potatoes coach, to learn more about the process and experience of representing the nation as part of the BUET ICPC team.

Campus (C): How does it feel to have done so well in the 2024 ICPC with BUET?

Sohel Rahman (S): The feeling is extraordinary. When you go abroad, and someone even mentions Bangladesh, you automatically feel proud. When we



M Sohel Rahman (front, right) receiving the Asia West champion award alongside his team at the ICPC World Finals 2023

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became Asia West champions and they announced our (BUET's) name starting with Bangladesh, it felt very good to hear it in front of everyone. Our name is such, that just from the name you can tell that this is a Bangladeshi university and the number one university in Bangladesh. It is an extraordinary feeling.

C: Could you share what the BUET ICPC team selection process is like?

S: The CSE department leads this operation, but we also have gifted students who come from other departments and compete. We start from the very beginning. When new students come into BUET, we set up a camp and call for interested students across BUET, not just from the CSE department. Here, we give students a basic idea and rundown of competitive programming and programming contests. Then, the interested students arrive under our umbrella.

As we form the team, we try to evaluate and make sure the team is balanced. Suppose there is one student who has weaknesses in a particular algorithm, but he is very good at the other sides. When forming this team, we try to find another student who will complement team member one by not having the same weakness. Likewise, we ensure team member three doesn't have the same weakness as team member two.

C: Could you tell us how the team had to practice to come this far?

S: A dedicated ICPC committee, of which you may think of me as a representative, runs the training and coaching operations. Some BUET CSE alumni also dedicate a lot of time and effort to assist us in the training operations. We do this not without challenges. On the day we went, it was the final exam of one of our final-year students, Sabit. We had to talk to the authorities and get that exam shifted to a different slot. The ICPC journey starts in the regional contest. If we win that, we start training for finals.

C: ICPC is regarded as the World Cup of programming. For aspiring coders and participants, could you share an overview of the competition experience and how tough the competition can get?

S: There is a prevalent misconception that this competition is only about programming. Yes, programming is a big part of it, but so are problem-solving and analytical thinking. At the competition, you are given eleven questions and five hours to solve them. It is a two-step process – find a solution to a very difficult problem and then code the solution in.

Solving the problems require very high analytical ability. You have to understand the problem, and what's in it, and then apply an algorithm to it. Not only that, there is a time limit given to every problem, so when they run your solution code on the computer, it has to give you a solution within two seconds. If it takes more than that, you will have exceeded the time limit and your solution won't be accepted, even if it is correct.

My advice for someone who wants to do well in programming contests is to practise analytical problem-solving the most. They should be able to think from a solution angle fast when they encounter a

problem. They should also know coding very well due to the time limitations they are given, so that they can code their solutions within a short time.

They should also be of very strong character. At the competition, you are given one PC for a three-person team. If a teammate is using the computer and you have come up with a solution, you have to wait till they are done, under time constraints and a high-pressure environment.

C: Do you have any future ambitions for the BUET ICPC team that you would like to share with us?

S: In my opinion, the style of our academics doesn't emphasise analytical ability and problem-solving very well. This has created a scenario where students have to practise these skills besides their studies. For example, if a student is good at analytical problem solving, it would be automatically reflected in their results but it is not as the system of academics is very memorisation-centric.

But the situation is different, they have to study in one way, and then, to improve their analytical ability, they have to take separate preparation. Due to this, it becomes a bit difficult to cope with these things together. To graduate from BUET, you need to pass 40 courses, all of which require lots of memorisation. So, a lot of students who have a lot of potential and showcase all three characteristics I just described, may at one point decide that they can no longer continue competitive programming.

Therefore, my vision and mission are to find out how I may nurture these gifted students, so they can focus more on their interest in this, while also continuing their studies.

Amrin Tasnim Rafa is a sub-editor at Campus.