

STUDENT CORNER · SUMMER SCHOOL SPOTLIGHT

September 2026



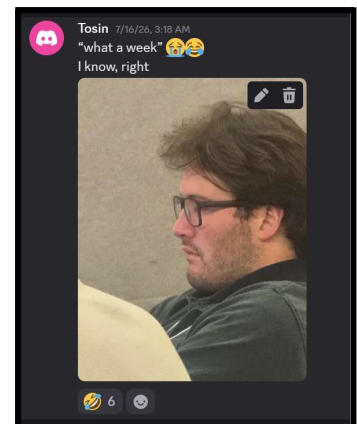
The 2026 IEEE Summer School on Telerobotics and Cyborg Technologies.



Robots, lectures, sleepless nights, memes and whatnot; 30 students. 10 speakers. Industry professionals. One brutal design challenge. And five very intense days learning what it actually means to build human-machine systems under pressure.

Somewhere between a 2 a.m. debugging session and a Discord channel slowly filling up with memes, it became clear that the 2026 IEEE Summer School on Telerobotics and Cyborg Technologies; first of its kind, was not going to be a regular academic event. That was probably the point.

The summer school was organised and funded by IEEE Telepresence and IEEE Systems, Man and Cybernetics Society (SMC) with support from IEEE Robotics and Automation Society (RAS). It took place from July 13-17 at the Rochester Institute of Technology (RIT).



It brought together 30 graduate students and postdoctoral fellows from across the world. I was the only undergraduate. That detail didn't escape me. Flying into Rochester, fully-funded by IEEE Telepresence, knowing that everyone else in the room had a Masters' or a PhD already in progress was a particular kind of motivation. Oh wait, who am I kidding... I initially felt like a misfit, battling imposter syndrome on the first day of the school as I heard the cool stuff everyone was working on. But that all wore off as the first day went by.

The summer school also brought together students from different countries and disciplines for five days of lectures, hands-on challenges, student pitches, and, inevitably, a few sleepless nights. The group was diverse. There were participants with backgrounds from Kazakhstan, the United States, Nigeria, Canada, South Korea, Germany, Portugal, India, Vietnam, Italy, Iran and beyond.



Some had spent years in robotics. Others came from an academic background on design and UI/UX. There were students who had experience with VR, others focused on medical technology, human-computer interaction, shared autonomy and control. You could have a robotics researcher sitting next to a designer or someone working on prosthetics talking with someone whose research focused entirely on human-computer interaction.

And that mix mattered. Because the summer school wasn't just about robots. It was about what happens when you put people who think about humans, machines, interfaces, autonomy and interaction in the same room and ask them to build something together.

For a first edition, calling it successful would be an understatement. Of course, there were a few unforeseen hiccups, especially with the design challenge, but that is also part of putting together something ambitious for the first time.

And, honestly, the sleepless nights may have been some of the things we remember most.

A STUDENT'S VIEW OF THE EXPERIENCE AT ROCHESTER!



It all just kinda happened....

And no, this is not just a '*Henry Danger*' reference. I mean it, literally.

Before becoming the Associate Editor for the Student Corner of the IEEE SMC eNewsletter, I had already been an active volunteer with the IEEE Robotics and Automation Society (RAS) and the broader IEEE community, both at my university and globally. I first came across the IEEE Telepresence Initiative and the summer school through RAS' social media pages. I remember thinking the programme sounded fascinating, but also thinking, *maybe I should pass on this*. I couldn't afford to attend either. Still, I wanted to be involved with the Telepresence Initiative because its focus aligned closely with some of my interests. So I did what I have learned to do increasingly often in the IEEE community: I asked.

I reached out to Prof. Tiago Falk, one of the General Co-Chairs of the Telepresence Initiative and also one of the organisers of the summer school. I explained how I had discovered the programme, why I was interested, and why attending wasn't financially realistic for me. I attached my CV and asked if there was any way I could contribute to the Initiative. Instead, he asked if I would consider attending the summer school. The Initiative could potentially seek funding from sponsors to support my participation. We jumped on a call, he heard what I had to say, I heard what he had to say; and that was that. I was going to Rochester.



And that is how I ended up at the 2026 IEEE Summer School on Telerobotics and Cyborg Technologies.

The summer school itself was intense. The programme was carefully designed to cover different dimensions of telerobotics, telepresence and cyborg technologies; from the human side of the problem to systems, cyborg technologies, embedding and real-world applications. Every day seemed to introduce another question about how humans and machines are supposed to work together.

For me, two lectures stood out particularly strongly. And yes, there is a bias being that my ultimate interest is on Robotics for Extreme Environments particularly Space/Planetary Robotics and Systems. I remember shouting "*that's my jam*" upon seeing the screen while the speakers were preparing to mount the stage. The first was Dr. Neal Lii from the German Aerospace Center (DLR), whose work focuses on telerobotics for space applications. He challenged us to think about a telepresent robotic assistant for a future space station, something that could help astronauts, support ground operators, operate with some degree of autonomy and still function despite communication delays and limited bandwidth. The second was Dr. Ashitey Trebi-Ollennu from NASA's Jet Propulsion Laboratory.

But somewhere between those lectures and the rest of the week, something else was happening.

I was dealing with imposter syndrome.

There were people in the room doing research that I had only encountered in papers. There were people with years of experience in areas I was only beginning to explore. Everyone seemed to know something I didn't. Then came my three-minute student spotlight. I had to stand in front of the same people I had spent the first few days quietly wondering whether I measured up to and talked about myself, my background, my academic journey, the experiences I had with teleoperations and what I hoped to do next. And I did it.

Afterwards, during lunch break, a few students came up to me and told me they loved my presentation and shared some really encouraging comments. A special shout-out goes to Manuel Couto from Portugal; my summer-school bestie as I would say, for being incredibly supportive throughout the week. Prof. Falk also spoke to me about imposter syndrome and reminded me, in his own way, that feeling like you don't belong does not necessarily mean you don't belong. Of course, I felt good about myself.

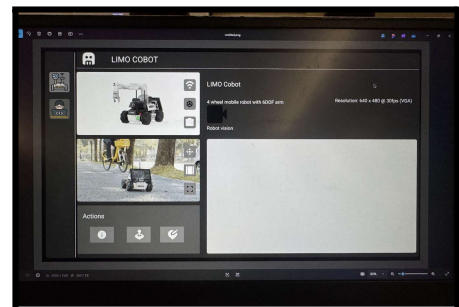
Okay, Now Build Something...

The lectures were one thing. Then we had to actually build something.

For the capstone design challenge, we were divided into teams of four and asked to design a Unified User Interface (UUI) that would allow a human operator to control at least two different robots. The challenge involved several robot platforms, including a humanoid robot, a rover, the caterpillar-inspired Scuttle robot and a Cobot. The interface needed to work across platforms while remaining intuitive enough for an operator who might not be a robotics expert.

I teamed up with Manuel, who took the lead, and two other PhD students.

This was also where I had my first real hands-on experience with Figma. I worked on interface concepts for robot collaboration and how an operator could interact with multiple robotic systems through a unified interface.



Then we met Unreal Engine. Thinking about it, honestly, Unreal Engine met all of us. The integration side of the challenge became significantly more difficult than simply designing something that looked good on a screen. Hardware availability, software integration and the very short timeline meant that the original plan had to change. Manuel ended up carrying a significant part of the technical load, particularly on the Unreal Engine side, but the experience gave me something I hadn't expected to get from a summer school: an opportunity to step outside the tools and workflows I already knew and actually contribute to a problem that crossed UI/UX, robotics, teleoperation and human-machine interaction.

And then came the sleepless nights.

There is a very specific kind of engineering experience that happens when a deadline is approaching, something isn't working, and everyone has collectively decided that sleep is a problem for tomorrow. That was us. We spent late nights trying to make things work, debugging, redesigning, testing and figuring out what could realistically be completed before the final presentation. The Discord server became increasingly chaotic as the week went on. At some point, we started making memes about ourselves. Hahaha. Because apparently, when a group of robotics students is sufficiently sleep-deprived, memes become part of the coping mechanism.



The design challenge eventually ended with a final presentation, where teams demonstrated their interfaces to the evaluators.

Maybe This Is What I Want to Do...

Academically, perhaps the biggest thing I took away from the summer school was a clearer sense of where I might want to go next. I have always been interested in robotics for space exploration. The conversation around these systems often gets framed as human-robot collaboration or, increasingly, robot-AI collaboration, especially with the rise of embodied intelligence and increasingly autonomous systems.

The summer school made me start thinking more deliberately about the intersection of all three:

Human + Robot + AI.

Not as three separate components, but as a system in which each has a role.

The lectures and challenges gave me a much clearer appreciation of shared autonomy and shared control; particularly the idea that autonomy does not necessarily mean taking the human out of the loop. In many complex environments, especially those where communication is delayed, uncertain or expensive, the interesting problem is figuring out how much decision-making should belong to the human, how much should belong to the robot, and how the system should dynamically negotiate that boundary.

And then there were the people.

I made connections with students and researchers from backgrounds I probably would not have encountered otherwise. I also had the pleasure of meeting Dr. Ashitey Trebi-Ollennu. I had followed his work at JPLI, so meeting him in person was a particularly memorable moment. Beyond talking to him about Space Robotics and NASA's broader missions. We also had to settle the important matter of Jollof rice. Ashitey is Ghanaian. I am Nigerian. (P.S. Nigerian Jollof is better).

Not Everything Was Robotics.....

The summer school also happened to coincide with the World Cup. At some point during the lunch break; we gathered to watch a match.

For all the technical discussions, lectures and debugging sessions, the summer school wasn't spent entirely staring at robots and codes. On the first and last days, I managed to play frisbee on the lawn near RIT's Global Village, where most of us were staying. The campus was beautiful, quiet, green and remarkably serene. We just rarely had enough free time to properly enjoy it.

I also played chess with Manuel. He won twice. In my defence, it had been a while since I played.

On the evening of the last day of the school, a group of us went into central Rochester to try the famous Garbage Plate. The name sounded slightly concerning when I first heard it. The actual food was much better than the name suggested.



There was also a lot of cultural exchange throughout the week. I taught some of the other participants a few words in Yoruba, the language predominantly associated with people from southwestern Nigeria which includes Lagos, where I am from. In return, I picked up a few words and

expressions from Portuguese, Farsi and some of the other languages spoken by participants.



The next day, a couple of us visited Niagara Falls before saying goodbye! A beautiful experience.



So, What Did I Actually Take Home?

I came to Rochester expecting to learn about telerobotics, telepresence and cyborg technologies.

I did.

But I also left with a better understanding of where my own interests might take me. I left having experimented with tools I had never used before. I left with a much deeper appreciation for shared autonomy and human-machine interaction. I left with new research ideas, new endeavours and a slightly larger network of people to bother with my questions.

So this is your cue to attend the next summer school organised by IEEE Telepresence and SMC.

And as a reminder, opportunities rarely arrive looking exactly like opportunities.

Sometimes they look like a social media post you almost scroll past.

Sometimes they look like an email you are not sure you should send.

Sometimes they look like a professor saying, “Let’s jump on a call.”

And sometimes they look like thirty students staying up until 2 a.m.

Somehow, it all just kinda happened.

