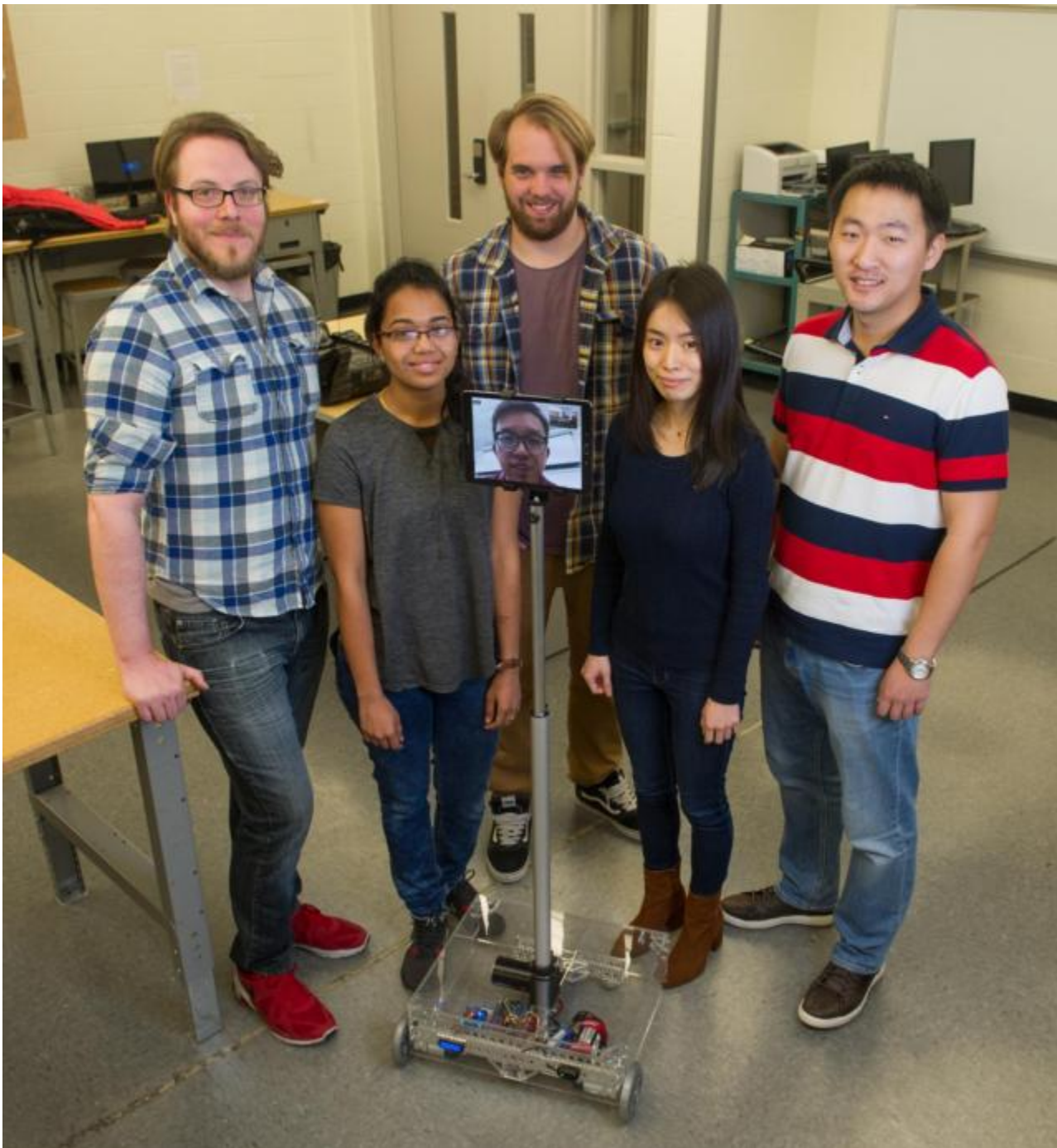


# SIUE researchers receive funding to advance telepresence robot

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EDWARDSVILLE - Put simply, a telepresence robot being created at Southern Illinois University Edwardsville functions like “walking Skype.” And, while the end goal is simplicity for users in a classroom setting, the critical thinking, and technological design and development involved in its creation are complex.

The Wailian Education Group, now WeEducation Group, Inc., supported the robot research and development with private funding totaling \$56,304. SIUE School of Engineering’s Mingshao Zhang, PhD, assistant professor in the Department of Mechanical and Industrial Engineering, directed the project.

Now, with an additional \$26,146 from WeEducation Group, Inc. for phase two, Zhang and his student research team are adding advanced capabilities to their prototype, ensuring their telepresence robot outcompetes others on the market.

“This telepresence robot will be used in educational settings to allow instructors to teach remotely, with a robot assisting with the social interaction necessary to effectively lead a classroom,” Zhang explained. “Instructors could use this technology to reach students in underdeveloped areas, for example, with just an iOS or Android application. The technology can bring powerful, effective teaching to areas that may be otherwise inaccessible.”

Three SIUE graduate students and two undergraduates are contributing to the research project and enhancing their academic knowledge and applied skills. Student researchers include junior mechanical engineering majors Alex Dinan and Bryan Kier, as well as electrical engineering graduate student Pengji Duan, and computer science graduate students Kai Li and Sherin John.

“It’s exceptional to be a part of this research project,” said Dinan, who aspires to work in automated manufacturing. “I have worked primarily on the structural elements, the shell manufacturing and the beta prototype’s various pieces. We built the acrylic stands and assembled the machine’s actual parts.”

In phase two, new functions are being added to the robot to minimize the effort of instructors by creating a fluid, natural interaction process with students. The advancements include speech recognition, classroom mapping and the ability to interact with existing classroom technology such as a projector.

“Added sensors will allow the robot to detect exactly where a noise is coming from and move efficiently to a particular student, so the instructor can directly interact,” explained Duan. “It’s one thing to design a product, but another to do so in a manufacture-oriented way as we’ve done. This will be a commercial product.”

“We’re excited that this project is moving on to a more experimental phase where we can now enhance its functions and manufacture a product that will positively impact teaching and learning,” Dinan added.

According to Zhang, the platform offers an innovative way to fulfill instructional needs in a way that supports positive learning outcomes.

The [SIUE School of Engineering](#) offers one of the most comprehensive and affordable engineering programs in the St. Louis region with eight undergraduate degrees, five master’s degrees and two cooperative doctoral programs, all housed in a state-of-the-art facility. Students learn from expert faculty, perform cutting-edge research, and participate in intercollegiate design competitions. Companies in the metropolitan St. Louis area provide students challenging internships and co-op opportunities, which often turn into permanent employment. All undergraduate programs are accredited by their respective accreditation agencies.

By preparing the next generation of leaders in a knowledge-based economy, [SIUE’s Graduate School](#) fulfills the region’s demand for highly trained professionals. Graduate school offerings include arts and sciences, business, education, engineering, nursing and interdisciplinary opportunities. SIUE professors provide students with a unique integration of theoretical education and hands-on research experiences. Students can obtain graduate certificates or pursue master’s degrees, and be part of a supportive learning and rich intellectual environment that is tailored to the needs of adult learners. The Graduate School raises the visibility of research at SIUE, which ranks highest among its Illinois Board of Higher Education peers in total research and development expenditures according to the National Science Foundation. Doctoral programs are available in the Schools of Education (Ed.D.) and Nursing (DNP). The School of Engineering and the Department of Historical Studies feature cooperative doctoral programs (PhD), and the College of Arts and Sciences features an Environmental Resources and Policy cooperative PhD.