

**CITATION OF**  
**Shichao Liu**  
**FOR THE**  
**ROMEO L. MORUZZI YOUNG FACULTY AWARD FOR**  
**INNOVATION IN UNDERGRADUATE EDUCATION**

As a trained engineer with a strong commitment to student learning, Professor Shichao Liu transformed the undergraduate classroom through innovative technology and pedagogy that cultivates and harnesses visual communication to foster student learning.

In his courses, Professor Liu found that many engineering students struggled with visual thinking and visual communication. This gap limited their learning, made it harder to share ideas in groups, and left some students disengaged or doubting whether they could become an engineer.

To address this, Professor Liu did three things. First, he began to incorporate drawing as a core engineering skill in his classroom, working with students to develop skills to conceptualize, clarify, and rapidly communicate emerging ideas in visual format. Second, he developed an augmented reality platform, named HoloArch, that provides students with extended reality technology that can help immerse themselves in design visualizations to ‘step into’ them and promote stronger engagement. And third, Professor Liu developed an AI-powered virtual reality tool that allows students to collaboratively generate 3D models with their groups from verbal descriptives and prompts.

Collectively, Professor Liu’s innovations help students develop a fundamental skill while, at the same time, utilizes technology that helps students bridge critical gaps to communicate their ideas and reason with visual information, all while developing these important skill sets. His innovations have not only shown to boost students’ knowledge about the design process but provide greater equity in the classroom, reducing the need for students to articulate their ideas visually as they developed these skills.

For his work to promote visualizations skills and visual communication, WPI presents the 2026 Romeo L. Moruzzi Young Faculty Award for Innovation in Undergraduate Education to Professor Shichao Liu.