Robotics and Manufacturing Systems Laboratory

Keyword; Robot, AI, Automation

-Making Robots Smarter and Easier to Use-

The development of generative AI has been remarkable, demonstrating advanced capabilities in tasks such as document comprehension, conversation, and answering exam questions. The integration of AI technologies into robotics is also progressing rapidly. However, robots, which must operate in the physical world, still struggle to make flexible decisions and take appropriate actions based on the situation like humans do. To expand the scope of environments in which robots can be actively utilized, many technical challenges need to be addressed.

In our laboratory, we are conducting research aimed at a future where robots play a more active role in homes and factories. Our work includes foundational theories of manipulation (how robots handle objects to perform tasks), the automation of tasks that have traditionally required human labor, and programming techniques that allow humans to easily teach robots desired actions. Through this research, we aim to realize new robots that are smarter, more user-friendly, and more practical.



Origami Paper Cranes

Robotic 3D Printer with Toy Blocks



AR-based Robot Programming Support





Sensorless Versatile Part Feeder through In-hand Caging

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