Social Cooperation Program
Technology for IoT sensing and analysis

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https://www.cvl.iis.u-tokyo.ac.jp/IoT-Sensing/

■ Improving the efficiency of agriculture through IoT

The decrease in cultivated farmland is becoming a problem worldwide due to population decline and aging. In this division, remote robots equipped with sensing devices such as cameras and LiDAR collect data on the environment and growth. By analyzing the data using AI, we aim to optimize sowing, fertilization, irrigation, pesticide application, and harvesting, and to realize agricultural production that goes beyond current empirical decision making. We also aim to further improve productivity by developing and introducing remote robots suitable for these tasks.

■ Development of high-precision X-ray imaging system

X-ray imaging has been applied in various fields, but the problems with X-ray imaging are low detection accuracy due to its low contrast and the high cost of the equipment. In the medical field, X-ray imaging has not yet been widely used in general clinics due to the risk of overlooking diseases and the high cost. In food inspection, it is difficult to detect organic foreign substances such as hair and plastic. Therefore, this division aims to develop a technology that enables high-precision detection by using AI technologies.

Multi-modal sensing

Growth recognition

Yield and harvest timing prediction

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