Project Studies in Electronics and Information Engineering Course in 2024-2025

1. A Study of Microcomputer Car Camera Class Rally (Kobayashi CameraTeam)

KAMIYA Hiryu, YAMAMOTO Yuya, YAMAMOTO Yuto, KANEDA Kosei

We built a car to compete in the Camera Class of the Microcomputer Car Rally.
Our car has a microcomputer and cameras to recognize the white line along the track so that it can run autonomously. We improved the program and the body of the car to win the Hokushinetsu regional tournament and prepare for the national tournament.

2. Study of system development related to industrial robots (SaitoTeam)

YAMAMOTO Yoshinobu, ARAKI Reina, YAMAGISHI Kouki, MATSUMOTO Ryu, HAYAKAWA Keisuke

Developing a system for industrial robots.We learned about control programs in our lessons. We also learned there is a shortage of skilled workers in Ishikawa prefecture. To compensate for this shortage, we wanted to increase productivity by using robots.

To this goal, we created an operation manual so that laypeople can understand how to use these machines. That way, industrial robots can be more widely used by many companies.

We hope that the introduction of industrial robots will help develop industry in Ishikawa.

3. Creating a convenient trash can (Kontani Team)

ICHINO Yuto, TAMAKI Ruka, YAGAWA Ginshiro, SHIMADA Keishin, YOSHIDA Kotaro, SHINBO Ryosuke, SAKATA Ryuku

Our group conducted a research project on the theme of creating a convenient trash can. We used Arduino to control it. It has an automatic opening and closing mechanism and the ability to move on its own in response to sounds.

4. Crane game creation based on shape (Okabe Team)

KIDO Daichi, KOSHINO Yoichiro, HASHIMOTO Kouki

Using the knowledge and skills I developed in our Electronic Information class, I designed and created a crane game using Arduino in which a three-claw arm grabs prizes. To accomplish this, I taught myself the Arduino programming language, researched various electronic components, and learned how to use different tools in a short period of time.

5. Building a table tennis machine using LEGO (Takatsuji Team)

SHOMURA Akira, SHIRAKURA Jin, MORINAGA Haruhisa, KONDO Gen

We used LEGO to create a table tennis machine so that one person can practice table tennis by themselve. We combined LEGO with the programming skills we learned in our second-year to solve various problems such as determining the speed at which the motors should rotates.

6. Game Creation with Unity (Kitamoto team)

KAWABATA Yasuo, KOMA Ryunosuke, NAKAYAMA Tokiya, OHAMA Kouga, HIRAMATSU Kyonosuke, MAEDA Tsukasa

In our research project, we created a game using Unity.Our goal was to make an enjoyable video game for the Kenko Exhibition. Although there have been several research projects using Unity before, we also chose this research project because we were interested in it.

7. Research on Micom Car 'Basic Class' (Kobayashi BasicTeam)

FURUYAMA Kanta, HASHIMOTO Yuta, TANIGUCHI Yu

We worked on a microcomputer car for the Basic Class in the Microcomputer Car Rally. Microcomputer Car is an autonomous car with a microcomputer. We first built a basic set and then created two original machines in this theme. We also adjusted the program. We did our best in the race at the Hokushinetsu Tournament.

8. Creating a crane game (OkabeTeam)

OI Nanami, KITAZAKI Hayate

We wanted to move physical objects using the skills we have acquired over the last three years.
At the same time, we also wanted to deepen our programming knowledge.
For those reasons, we chose to create a crane game machine.