Applying AI, IoT and Chat GPT to the Silkworm Farming Model of Farmers

Le, Hoang Truong Giang (School: Phan Dinh Phung High School)
Le, Ha Thanh Phong (School: Phan Dinh Phung High School)

According to the Ministry of Agriculture and Rural Development, Vietnam is currently the third country in the world in silk production in 2023. And the Central Highlands where we are living is a place with suitable ecological conditions for production. Mulberry trees cover an area of more than 10 thousand hectares, accounting for 76.16% of the whole area in Vietnam. With the above characteristics, our project, named "Embedded AI, IoTs and ChatGPT into Silkworm Farming for Empowering Farmers" is proposed, in order to support farmers in applying advanced technology to improve productivity and economic development of the region. In this project, an automatic machine is researched and developed to monitor the growth of silkworms to detect hunger and illness and notify to farmers so that supplementary feeding and automatic feeding can be activated automatically. Base on IoTs sensing system, the conditions of the silkworm farming are updated real-time to the farmer. Moreover, the most interest in our project is the use of ChatGPT as a virtual assistant, in order to guide and support farmers to update their knowledge and experience in silkworm farming. Experiment results and prototype on the fields have shown that our project can reduce the time and labor for the community of farmers, increased productivity, knowledge, and experience in silkworm farming, and has been validated by the local Farmers' Union as effective, with recommendations for early deployment of this model in the region.