AI&SUSTAINABILITY IN VET EDUCATION

DISSEMINATION EVENT IN SKOPJE, N.MACEDONIA



On the 26th of April 2025, Sredno elektrotehnicko uciliste na Grad Skopje " Mihajlo Pupin" - Skopje (VET centre located in the capital of North Macedonia), had the dissemination event of the AI & SUSTAINABILITY Erasmus+ project.

The dissemination event was organized as an open day for the new potential students in our school and their parents. The goal was to present them the results of the AI & Sustainability in VET Education project and the projects that students made with the Raspberry Pi.

Key highlights of the dissemination event include:

- An introduction to the AI & Sustainability in VET Education project.
- Presentation of training outcomes from Darica, Turkey, focusing on Raspberry Pi 5 technology .
- Overview of Raspberry Pi components, actuators, and sensors.
- Presentation of training outcomes from Athens, Greece, focusing on Computer vision, object detection, image processing, deep learning, transfer learning, GitHub.
- Demonstration of the projects made with students in our school, involving Raspberry Pi 5 , AI and sustainability..
- Engagement with students and parents through a Q&A session, emphasizing the availability of online training for the students to participate in existing and new projects.



COORDINATOR

***KAUNO TECHNOLOGIJOS UNIVERSITETAS**

PARTNERS

- DDE B Athinas
- POLITEKNIKA IKASTEGIA TXORIERRI S.COOP
- DARICA ILCE MILLI EGITIM MUDURLUGU
- Sredno elektrotehnicko uciliste na Grad Skopje Mihajlo Pupin North Macedonia
- ASSOCIATION EUROPEENNE POUR LA FORMATION PROFESSIONNELLE
- Sucessos Criativos, Lda
- INSTITUTO POLITECNICO DO PORTO

Funded by the European Union

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SmartThrow – intelligence inside, cleaner outside

SmartThrow is a trash can that operates automatically, recognizing the type of waste that is thrown into it and sorts it into the appropriate compartment. With this project, our goal is to reduce pollution and make the recycling process easier and more efficient. When a user throws waste into the bin, an integrated camera scans the item and, using a pre-trained database, identifies the type of waste. Then, a moving mechanism transfers the waste to the correct compartment and releases it, after which it returns to its starting position.





OBJECTIVES

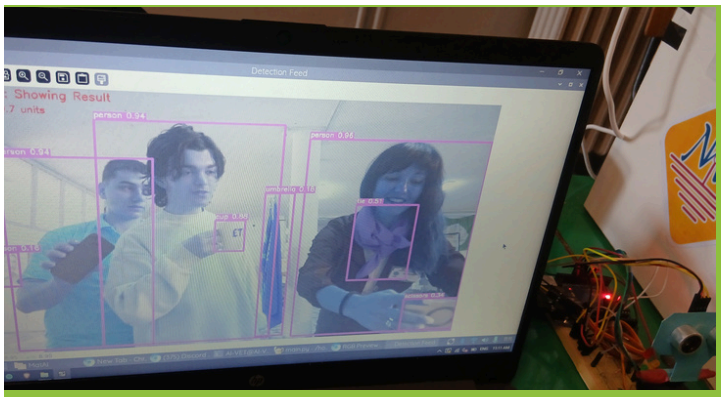
- Enhance practical knowledge in AI, computer vision, and IoT systems through hands-on work.
- Improve collaboration and teamwork by working together across hardware, software, and design roles.
- Develop problem-solving and critical thinking skills during the construction, testing, and troubleshooting phases.
- Strengthen creativity and innovation by designing a unique solution for real-world environmental challenges.
- Gain experience in project documentation and presentation, useful for future academic or professional pursuits.

LEARNING OUTCOMES:

- Understand how AI can be applied to solve real-world environmental problems
- Develop skills in integrating hardware (sensors, servos) with AI-based software solutions
- Gain hands-on experience with tools like Raspberry Pi, Python, and Roboflow
- Improve teamwork, project planning, and technical documentation skills
- Learn to evaluate and refine prototypes through feedback and testing

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AI Dog Chaser

This project aims to develop an intelligent surveillance system using Raspberry Pi and object detection technology to monitor restricted outdoor areas and prevent stray dogs from entering. The system operates by continuously rotating a camera to scan the environment. When a dog is detected, the camera halts its movement, a high-frequency sound is emitted to deter the animal, and an LED light is activated as a visual alert. These deterrents remain active until the dog is no longer detected, after which the system resumes its scanning routine. The goal is to provide a cost-effective, automated, and humane solution for maintaining animal-free zones in public or private spaces.

OBJECTIVES

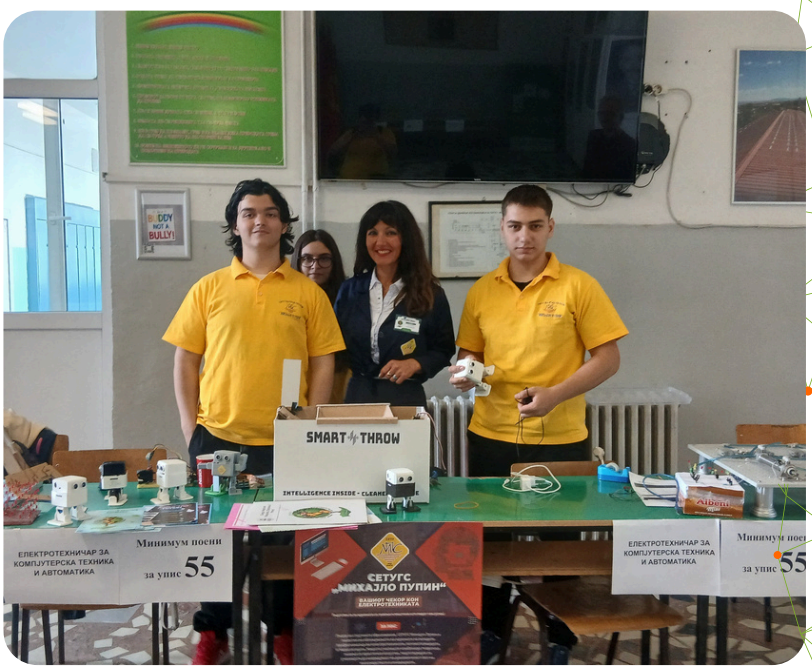
- Develop practical skills in using Raspberry Pi for real-time automation.
- Implement object detection techniques to recognize and track animals.
- Create a responsive system that combines mechanical motion and audio-visual alerts.
- Understand the integration of hardware (camera, motors, sensors) and software (Python, object detection models).
- Explore the use of AI in monitoring and deterrent systems.

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