Project name: Personalized Education in Measurement Science and Technology Empowered by Machine Learning

Project ID: 2024-1-MK01-KA220-HED-000248299

Project Acronym: PEMS-ML

Starting date:1.11.2024

Duration:24 months

The project aims to develop an innovative concept of personalized learning in higher education, focusing on its application in the field of measurement technology. These educational concepts align with the latest recommendations in Education 5.0, emphasizing the student and their individual characteristics as the core of the educational process.

The personalized learning approach will be implemented through the integration of machine learning and artificial intelligence. The project specifically targets measurement technology and related application solutions within Industry 5.0, encompassing areas such as the Internet of Things (IoT), Industrial Internet of Things (IIoT), Digital Twin technology, and sensor technologies.

As part of the project, a new course will be developed to address the challenges of personalized learning. A variety of teaching materials will be created, including multimedia presentations, educational computer games, simulations, and practical demonstrations. These resources will support diverse learning methods, enabling students to enhance their skills and competencies in measurement and sensor technologies.

The main objectives of the project include:

- Implementing tailored educational strategies that accommodate the unique needs and learning styles of each student in the realm of measurement science and technology.
- Infusing machine learning methodologies into the educational framework providing students with a cutting-edge skill set aligned with industry demands.
- Empowering students with the ability to navigate and contribute to the rapidly evolving landscape of Industry 5.0, where measurement techniques play a pivotal role.

And the main results include:

- Personalized learning methods to meet individual student needs, creating an effective, engaging educational setting in measurement science and technology.

- Motivating and assisting educators in embracing innovative teaching methods and consistently enhancing their approaches to remain at the forefront of educational innovation.
- Graduates well-prepared to contribute to the advancements of Industry 5.0, where measurement techniques play a crucial role in shaping the future of various sectors.

The uniqueness of the PEMS-ML project lies in its emphasis on developing modern educational materials such as videos, games, multimedia presentations, and simulations to enhance learning and mastery of the content. These educational concepts are fully aligned with the latest recommendations in Education 5.0, which place the student and their individual characteristics at the heart of the educational process. The concept of personalized learning will be implemented through the use of machine learning and artificial intelligence.

PEMS-ML is a project led by the Faculty of Electrical Engineering and Information Technologies (FEEIT) at "Ss. Cyril and Methodius University in Skopje under the KA220-HED – Cooperation Partnerships in Higher Education program. With a duration of two years and a total budget of 120,000 euros, the project is co-financed by the Erasmus+ program of the European Union and officially commenced on November 1, 2024. In addition to FEIT as the lead partner, the project involves collaboration with Politecnico di Milano (Polimi) and the Faculty of Electronics at the University of Niš (UNI).

Profiles on social media:

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The PEMS-ML project is co-funded by the European Union through the Erasmus + program.