AI for Youth

Promising Practice

Implemented by:
Poznan Supercomputing and Networking Centre (PSNC)

Where:
Poland

Status:
Launched in September 2021

Summary:
The AI for Youth programme aims to increase digital awareness, especially in artificial intelligence, and promote future competencies among young people.

Overview

Poznan Supercomputing and Networking Centre (PSNC) was established in 1993 as a Polish Academy of Sciences research laboratory. PSNC is a member of GÉANT (a fundamental element of Europe's e-infrastructure, delivering the pan-European GÉANT network for scientific excellence, research, education and innovation). PSNC actively participates in the design and development of high-speed interconnects, fibre-based research and education networks, allowing PSNC today to be a key member of the pan-European GÉANT optical network connecting 34 countries through 39 national networks (NRENs).

Description

Increasing digital awareness

The AI for Youth programme is Intel's global programme, developed in 2019, aimed at increasing digital awareness, especially in artificial intelligence, and promoting future competencies among young people. Based on this programme, the Poznan Supercomputing and Networking Centre has developed and implemented several educational projects in Poland geared towards the teachers and students of Polish general secondary schools and technical and vocational schools. So far, five editions of the programme have been carried out, covering over 120 schools, including nearly 200 teachers and over 2,000 students.

AI knowledge

AI for Youth provided training and educational materials for teachers and students to acquire AI knowledge. Also, it proposed technological tools for practising programming and developing skills in creating AI-based solutions. The project filled the lack of such programmes in the Polish educational landscape and provided accessible specialized tools for implementing the programme. The project also included the development of entrepreneurial attitudes among young people, such as creativity, innovation and risk-taking, as well as the ability to plan and manage projects to achieve the intended goals. The AI for Youth programme was designed to inspire action and encourage decisions, e.g. creating a startup.

Training materials

The project's participating schools received training conducted by PSNC engineers and access to all educational materials. Teachers were offered training on the basics of artificial intelligence, the Python language, and Design Thinking, support from trainers, and the AI for Youth Programme Coach certificate issued by Intel Corporation. A package of recommendations was also developed and presented to the Ministry of Education and Science and the Ministry of Development and Technology.

Objectives

The main objectives of the initiative were:

- promoting programming and knowledge about artificial intelligence in schools, developing and testing solutions to establish competencies in the field of artificial intelligence among secondary school students;

- building key digital competencies engaging the sphere of abstract thinking among students;

- promoting AI-based entrepreneurship among students; and

- building high motivation among young people to search for innovative ideas, create new solutions and implement them.

AI for Youth is targeted at students and teachers of public general, technical and vocational secondary schools.

The initiative was designed to help reduce teachers' competence gaps in teaching IT subjects and gaps in knowledge and skills in the field of new technologies among students.

The AI for Youth programme develops entrepreneurial attitudes among young people, such as creativity, innovation, risk-taking and the ability to plan and manage projects to achieve intended goals. It allows young people to have a better start in the labour market. It also provides well-prepared educational materials adapted to the skills of students and teachers. At the same time, workshops conducted by specialists from the Poznan Supercomputing and Networking Centre allow for the development of knowledge and skills needed to implement AI-based programming

projects. The initiative provided opportunities for further development of students and their projects by enabling them to participate in competitions organized in Poland and abroad.

Outcomes and impact

The programme reached a large number of users

The project involved more than 120 schools, nearly 200 teachers, and over 2,000 students. It ended with implementing 100 student projects using artificial intelligence to solve social, environmental and other problems noticed by the student teams.

Diverse and modern AI teaching methods

At the last final gala - a ceremonial summary of the pilot and training cycle - 30 distinguished teams and projects were presented and awarded. The final projects won the recognition of the competition jury, which appreciated their real potential and creative approach to using technology to solve significant problems. The competition jury selected the five best projects and awarded their creators the title of winner.

The possibility of implementing the programme in various environments/countries

The winners' projects touched on such vital issues as support for people who have post-stroke paralysis, a new approach to the use of gestures in the operation of computer systems, methods helping to maintain a healthy body posture, and automated detection of tumours in medical images.

Challenges

Different levels of knowledge and skills in programming among teachers and students

The challenge was overcome by organizing courses and webinars for students and teachers conducted by PSNC specialists.

Recruitment process

Promotional campaigns using Facebook and teacher groups dealt with problems in recruiting the appropriate number of students and teachers.

Lack of appropriate programmes for learning AI, project work and online work

Providing tools for learning programming, project work and online work as part of the Pionier R&C package maintained by PSNC.

Insights

- There is a need to monitor teachers' educational requirements constantly and offer systemic group and individualized support. Regardless of age or seniority, all teachers need training and support in implementing STEAM and AI.

- It is necessary to implement activities promoting the expansion of teachers' professional competencies in various subjects and developing digital skills, including AI.

- It is necessary to use design and student-activating activities.

- Distance and hybrid (flexible) education should become a permanent form of organizing classes, complementing the stationary education of students and teachers.

- Substantive support should be provided (e.g. through training and consultations) to teachers who want to implement AI elements in their work with students.

- It is important to provide conditions for conducting interdisciplinary projects in the field of AI.

- Cooperation within the environment and with external stakeholders is advisable.

Next steps

PSNC is planning to prepare a competition for students and teachers of the AI for Youth and AI for Workforce projects. The institution will also participate in the competition to conduct the AI for Youth project for the Ministry of Education and conduct a course for Dell.

Learn more

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To learn more about Poznan Supercomputing and Networking Centre (PSNC), visit:
https://ai4youth.edu.pl/

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