AI Generation - an AI Literacy curriculum for disadvantaged youth in Romania

About UiPath Foundation

UiPath Foundation is changing the trajectory of children living in poverty through innovative technology-enabled education and long-term, personalized support. With the guidance of inspiring role models, we are equipping each child with the skills for the future and the confidence to succeed, both in school and beyond.

We believe technology is the key to unlocking educational opportunities for children in vulnerable communities, when thoughtfully integrated with the realities they face. By providing essential digital infrastructure such as tablets, laptops and reliable internet access, an online learning platform, we open doors to boundless learning possibilities. We equip children with **essential programming** and **AI skills** as a core part of their digital education. By mastering these technologies, they gain the tools needed to thrive in the future workforce.

Context

Artificial Intelligence is becoming an intrinsic part of society with applications in all industries, shaping the way we work, the way we interact with everyday digital tools and the way we learn. Its wide use is changing systems, creating a need to foster AI literacy skills starting in education.

In Romania 39% of children are at risk of poverty or social exclusion (EUROSTAT, 2023) and the digital skills level is well below the EU average according to DESI (European Commission, 2024). These statistics show an increased risk of AI widening the digital divide and poverty gap. UiPath Foundation is helping reduce these gaps through its educational programs and free AI curriculum.

Own Your Path is UiPath Foundation's largest long-term educational program dedicated to supporting students from vulnerable communities through their 4 years in high school. Starting in 2023, the program has reached over 1250 high school students, with a current cohort of over 1100 students from 20 counties in Romania. **Beneficiaries receive a monthly scholarship and access to synchronous online courses and activities in the program's educational platform. Courses are aimed at developing English skills, Programming and AI skills.**

The AI Generation curriculum

AI Generation is an AI Literacy curriculum for high school students developed by UiPath Foundation in partnership with App Inventor Foundation and Global Science of Learning Education Network. It leverages UNESCO's *AI Competency Framework for Students* (Miao, Shiohira, & Lao, 2024), and it's independently implemented by UiPath Foundation on its educational platform.

The high school AI curriculum is grounded in a human-centred and computational action approach (Tissenbaum, Sheldon & Abelson, 2019) built upon the 4 core values and 10 principles from UNESCO's *Recommendation on the Ethics of Artificial Intelligence* (UNESCO, 2022), which emphasizes the ways in which AI can intersect with key humanistic principles such as inclusion and equity; the use of AI to overcome social, personal and/or environmental challenges; and a focus on sustainability and reducing environmental impact.

The curriculum includes 3 courses:

- Course 1: Introduction to AI - discover the world of AI and how to use it responsibly
- Course 2: AI and MIT App Inventor - use MIT App Inventor to build apps with AI components
- Course 3: Create AI app in MIT App Inventor - create AI apps from problem scoping to deployment

Since 2024, 118 disadvantaged students across Romania have participated in Course 1 and 40 of them chose to continue with Course 2.

Course 1: Introduction to AI for high school students builds the foundation for AI Literacy. It's a non-technical course, with interactive lessons introducing concepts gradually, which makes it accessible to students regardless of their prior knowledge or experience with AI. No coding skills are required to attend or teach this course.

Course 1 was piloted in the Own Your Path program with online synchronous sessions led by volunteers, employees of UiPath, mostly from non-technical departments. We provided comprehensive onboarding and training for the course leaders, including weekly preparatory sessions, also held by a volunteer from UiPath, an expert in AI and Learning. The pilot implementation spanned 14 weeks and included three instructional modules followed by a Capstone project module, aligned with the first three aspects of UNESCO's *AI Competency Framework for Students*:

- **Module 1:** Human-Centered Mindset (4 weeks)
- **Module 2:** Ethics of AI (4 weeks)
- **Module 3:** AI Foundations (4 weeks)
- **Module 4 Capstone project:** Teaching AI to Your Community (2 weeks)

Each core module involved four weeks of synchronous instruction, totaling approximately 35 hours (1.5 hours of classroom learning and one hour of homework per week). Students engaged in iterative problem-solving using AI to address personally relevant challenges, culminating in the Capstone project where students designed and taught AI lessons to peers and community members.

Results after piloting Course 1

A monitoring and evaluation report was developed after the first iteration of the course. A total of 94 students participated in the pilot. 88 students provided the data necessary for the elaboration of this report, a response rate of 93.6%. The group consisted of 62.5% female and 37.5% male students, ranging in age from 15 to 17 years old, 73% resided in rural areas, while 27% came from urban settings.

Data was collected through feedback forms, knowledge assessments and pre- and post- Likert surveys and the main results are:

- 97% of students felt they learned something new.
- 88% of students reported that they were confident in explaining AI concepts to peers
- 80% of students indicated increased interest in pursuing AI-related careers.
- The Likert-based pre- and post-program surveys demonstrated perceived improvements in self-efficacy and knowledge in AI, as well as overall improvements in problem-solving and collaboration skills.

No significant performance differences were found between male and female students, reinforcing the program's goal of inclusivity and its effectiveness in engaging students across gender lines.

Student testimonials:

"During the course I found out that these AIs are much simpler to understand and, surprisingly, very common. I really liked the way this AI phenomenon was presented: easy to understand, without any complicated languages or impossible to follow schemes." - ***Sorin, 17 y.o., Suceava county, Romania***

"The activities were diverse and fun, but I really enjoyed the ones where we read articles about the impact of AI on different systems (medical, banking) and we all discussed in groups, sharing our opinions and what kind of impact they have on us." - ***Georgeta, 17 y.o., Neamț county, Romania***

Course 2: AI and MIT App Inventor

The second course of the curriculum has three modules, covering the "Apply" level of the AI Competency Framework for Students: Human-centered mindset, Ethics of AI, and AI techniques & applications. During Course 2, students learned to use MIT App Inventor to create apps with AI components, under the guidance of trainers, volunteers from UiPath. They also explored machine learning and deep learning, research, and data visualization, they used Teachable Machine, TensorFlow, and built apps using smart translators, image classification, text-to-speech and chatbots.

Student testimonials:
"I enjoyed learning about qualitative and quantitative research and discovering new things about different types of diagrams." - ***Viorel, 17 y.o., Vrancea County, Romania***

"I appreciate that although we were taught new things, learning them was not difficult at all. We received the information and explanations we needed without any problems." - ***Gabriela, 17 y.o., Suceava County, Romania***

"What I enjoyed the most was making applications in MIT App Inventor." - ***Ştefan, 17 y.o., Olt County, Romania***

"App Inventor is quite interesting, given that we can create some pretty good applications without advanced knowledge. I enjoyed learning to use it." - ***Ionuţ, 18 y.o., Galaţi County, Romania***

UiPath Foundation supports children and youth through long-term technology-enabled educational programs, including an Alumni Community dedicated to those who want to continue their education after graduating from High School. This enables monitoring the long-term impact of the curriculum and measuring real-world outcomes.

AI Generation scale-up

As of May 2025, Course 1 of the AI Generation curriculum has been adapted to in-class teaching and is public and free to use and be adapted by educators worldwide under a Creative Commons Attribution - ShareAlike 4.0 International (CC BY-SA 4.0) license. Educators can access the course materials at https://aigeneration.uipathfoundation.com/ starting on May 6th, 2025.

The public course spans over 28 weeks in 50-minute lessons. It has been designed to fit the in-class environment of formal educational institutions (high school, secondary school), but it has adaptations for online synchronous teaching as well and can easily be introduced in non-formal educational settings. In Romania, the course will be integrated into the high school system as part of the curriculum decided by each school, aiming to reach approximately 600,000 students. Course 1 provides a foundation for AI literacy and it can be used with high school students regardless of their school or class profile and no programming skills are needed.

Conclusions

AI Generation has generated strong evidence regarding relevance, accessibility, and satisfaction among high school students in Romania. By building on strengths and addressing areas for growth discovered in the monitoring and evaluation report, AI Generation can continue to serve as a powerful model for equitable AI literacy education.

The AI Generation curriculum continues to be successfully implemented within the UiPath Foundation's Own Your Path Program for high school students from vulnerable communities in Romania.

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