



# Digital Skills Summer Camps 2024

# 1. General Camp set up and computers

- The Digital Skills workshop takes place on 9 mornings, 3.5 hours a day.
- On the first day, the whole group will meet to go through the basics of e-safety.
- In order to conveniently take home work done in the camp, we ask you to bring your own computer. Please do not forget to bring a charger and an electric converter for your computer.
- Which computers? All digital skills courses run on the vast majority of commercially available computers, with a preference for computers with 8GB of RAM or more. If you are buying a new computer, Microsoft's Surface may be a good option.
- Knowledge required: The camp is suitable for students with all levels of digital knowledge. Learning takes place in small groups (maximum 7 students for one instructor) and everyone gets to work on individual tasks suitable for their level. If you have already done Python, don't worry, we have material at many different levels to keep you interested and challenged.
- Languages: The camp is taught in English, the language of code. As the instructors are bilingual, specific questions can be discussed in German and French.

# 2. Three Course Options: Coding, Digital Storytelling & Robotics

# I) Build your own Digital Game with Python

# "Easily pick up a powerful and fast computer language"

Students are introduced to computer programming using one of the most popular professional programming languages on the market. Python is easy to pick up, whether a student is a first-time programmer or experienced with other languages. Teens will enjoy writing short programs with Python, will work on group exercises, and will then build a game of their choice.

# More course info @ TechSpark Academy

• About Python, the language of Instagram, YouTube & Google's search engine Widely used by programmers, designers and game developers, Python has rapidly become one of the most popular programming languages. Whatever your interests, Python is a great way to prepare for university education, as it is now taught not only in all science and engineering faculties, but also in finance, business and economics. Python is powerful and fast. It plays well with others, it runs everywhere, is friendly & easy to learn, and is open.



#### www.python.org/about

# II) Explore Digital Storytelling and Game Design

# "Create your own digital story or game with MIT's Scratch"

Students learn to create their own interactive digital stories or games with a personalised and adapted approach. Scratch is designed as an entry level, visual based programming language to encourages kids to think creatively, reason systematically and work collaboratively while getting the grasp fundamental coding concepts. Students learn in a comfortable environment with an adapted pace and get to share their creations with others in the online community by assembling Lego-like blocks of code. If you can dream it, you can code it! Use Scratch to build multi-level games and very advanced projects.

# More course info @ TechSpark Academy

#### · About Scratch, MIT's introduction to computer science

Scratch is a programming language and an online community where children can program and share interactive media such as digital stories, games, and animation with people from all over the world. As children create with Scratch, they learn to think creatively, work collaboratively, and reason systematically. Scratch is designed and maintained by the Lifelong Kindergarten group at the MIT Media Lab.



#### https://scratch.mit.edu

#### III) Adventures in Robotics with Arduino: "Build and program your own robot!"

Robots have an increasing presence in our daily lives. Whether a student is interested in digital intelligence or is a fan of Star War's R2-D2, this course will allow him/her to build a robot and then learn hands-on robotic programming with "Arduino", a very popular robot programming language.

# More course info @ TechSpark Academy

#### About Arduino Microcontroller for Robots

Arduino is an open-source platform based both on a microcontroller board and a development environment, which will enable the user to write code to interact with the environment. Be it a simple blinking LED or a more complex line-follower obstacle-avoiding robot, Arduino can do it!

#### www.arduino.cc/en/Guide/Introduction



Robot



Microcontroller