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both get
10% discount

4-week Courses

September 2021

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
		1	2	3	4	5
6 18:30 Learn IoT (Internet of Things) with Sensors	7	8 18:30 Artificial Intelligence (AI) with Zümi intelligent car	9 18:30 Programming in 4 weeks with Python	10 10:00 Programming in 4 weeks with Python	11 14:30 Artificial Intelligence (AI) with Zümi intelligent car	12
13 18:30 Learn IoT (Internet of Things) with Sensors	14	15 18:30 Artificial Intelligence (AI) with Zümi intelligent car	16 18:30 Programming in 4 weeks with Python	17 10:00 Programming in 4 weeks with Python	18 14:30 Artificial Intelligence (AI) with Zümi intelligent car	19
20 18:30 Learn IoT (Internet of Things) with Sensors	21	22 18:30 Artificial Intelligence (AI) with Zümi intelligent car	23 18:30 Programming in 4 weeks with Python	24 10:00 Programming in 4 weeks with Python	25 14:30 Artificial Intelligence (AI) with Zümi intelligent car	26
27 18:30 Learn IoT (Internet of Things) with Sensors	28	29 18:30 Artificial Intelligence (AI) with Zümi intelligent car	30 18:30 Programming in 4 weeks with Python	1 10:00 Programming in 4 weeks with Python	2 14:30 Artificial Intelligence (AI) with Zümi intelligent car	
						 



[020TECMAKERHUB.NL](https://020tecmakerhub.nl)

Artificial Intelligence (AI) with Zümi intelligent car - Python & OpenCV

learn about how artificial intelligence (AI) works, by training Zümi, a friendly, self-driving car kit that makes really easy to learn about artificial intelligence (AI).
4-week course,

Learn IoT (Internet of Things) and Python & Sensors

inclusive LoPy4 with microPython board and all needed sensors and hardware.
4-week course,

Python Programming

Learn how to start with the 3rd most popular programming language in the world, A very powerful tool for Artificial Intelligence, IoT, data analytics, and cloud and on-premises applications.
4-week course

[Get our courses catalogue at 020tecmakerhub.nl](https://020tecmakerhub.nl)

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1-day Courses

September 2021

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		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17 10:00 – 17:00 Artificial Intelligence (AI) with Zümi intelligent car	18	19
20	21	22	23 10:00 – 17:00 Learn IoT (Internet of Things) with Sensors	24 10:00 – 17:00 Artificial Intelligence (AI) with Zümi intelligent car	25	26
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1-day course,

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Start to learn today's technology with TecMaker

Electronics IoT, Programming & AI for you in a simple but consistent way.

Today's technology is overwhelming. Whether it is at work, at home, or during our transportation, we face in our day to day life an immense amount of technological devices. The impact of those devices on our behaviour, on our way of thinking, is still unknown. However, like in every subjects, getting an understanding about the matters is key to start exploring, first personally, and then collectively, on how technology affects our life. Having some minimal knowledge about computer systems is today a necessity for getting back control on our digital life.

Here, at the TecMaker, we approach the problem with the following perspective: knowledge requires both a theoretical and a practical understanding. The theory aims at sharing some

basic abstractions about computer systems: programming languages, networking protocols, infrastructures, etc. The practice is based on a set of programmable hardware that can be manipulated and experimented. Both theory and practice are necessary to grip some control of today's technology concepts.



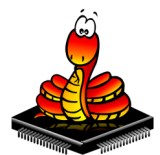
To start we offer three lectures:



[1. Programming with Python.](#)

[2. Play with Zumi and its Artificial Intelligence.](#)

[3. Build and connect some IoT Internet of Things.](#)



Microsoft Azure
IoT Platform

The lectures take place in our building at TecMakerHub.

All lectures have at their core the strong motivation of providing both a simple theoretical and practical understanding of their subject.

And yes... there is also some homework involved.

Three lectures to start

Course + Classroom Hands-On + Support by Teams + Friendly atmosphere

1. Programming with Python

Python is one of the leading programming language, and also a very intuitive language for a first experience. The course has the ambition to teach the basics of programming and provide some useful tips to keep learning on your own. Each lecture focus on a key concept shared among all programming languages, and then give some examples and material to practice with Python.



The course focuses, among other things, on the following main elements in the increasing level of difficulty: • basic: types and data structures • computation: functions and algorithms • programming style: libraries, modules, and problem solving.

2. Zumi and Artificial Intelligence

Artificial intelligence is a concept that is used today in some very diverse situations. While technology allows you to do some very powerful analysis, we must also understand the limits of artificial intelligence. This lecture aims at giving some basic notions about Artificial Intelligence, while experimenting with a miniature driving car.



We will unfold the somewhat mysterious side of AI with a course based upon the following steps: • Zumi and some historical facts about AI • Study of a KNN classifier and apply the algorithm to help the Zumi car navigate • Study of a Haarcascade classifier and do object recognition on a video stream • Use AI to solve some navigation problems with Zumi.

3. Internet Of Things

The miniaturization of computer has the consequence that most of our equipment will have the ability to be interfaced and connected. As such, various information can be accessed (temperature, light, time, etc.) and decision can be taken. The Internet Of Things aims at



connecting sensors and actuators with micro-controllers to monitor and take action in due time. This lecture will provide the basic understanding of what is behind the IoT technologies, and will give a practical example using a sensor communicating with Lora on The Things Network. The course consists in four lectures: • programming and flashing a microcontroller, • connecting a microcontroller to The Things Network, • sensing and recording temperature from the microcontroller, • sending and displaying the temperature data on The Things Network.