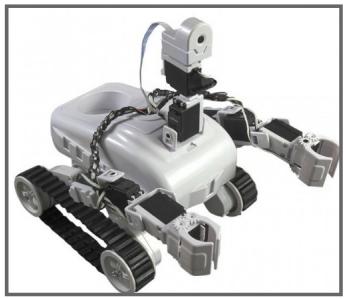
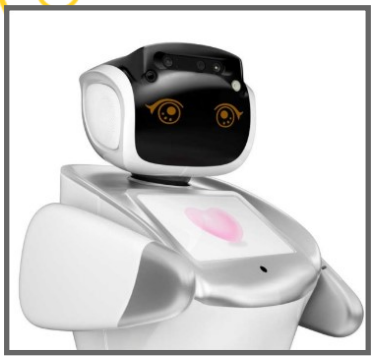
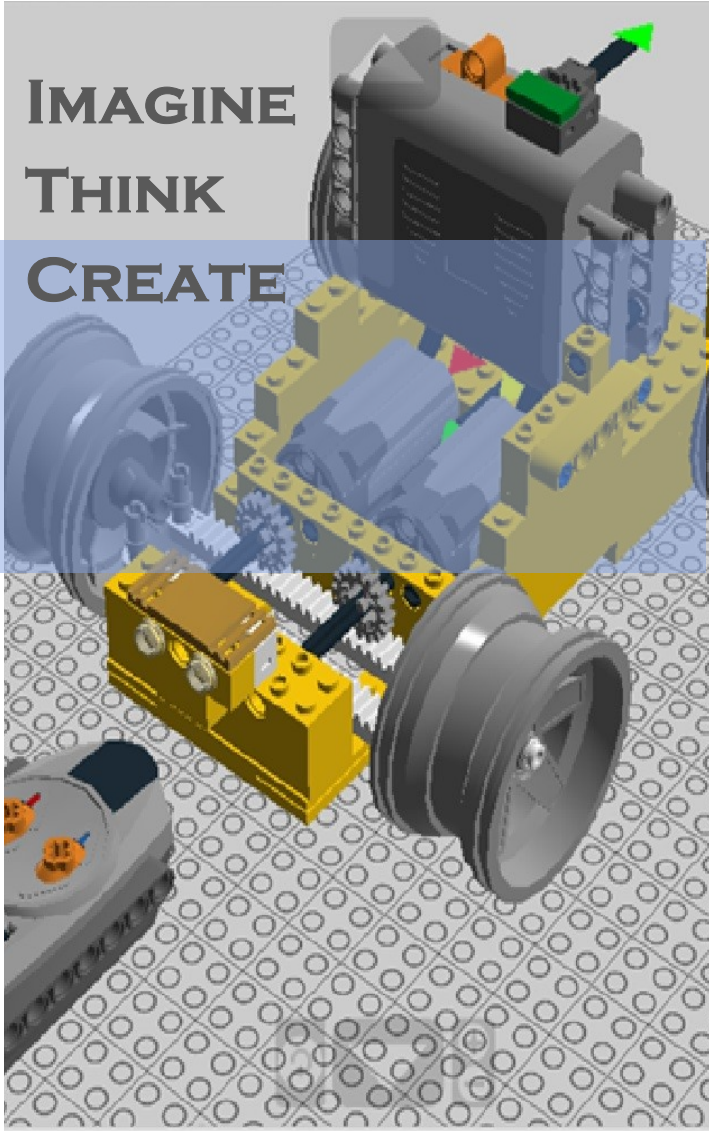




Kids Ages 8 to 12
Teens Ages 13 to 19

Virtual Coding and Robotics Camps



pygame

C++

OpenCV

ARDUINO

python

Java

1.800.414.4109

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ROBO-GEEK®

Coding, Electronics & Robotics

STEM Summer 2021 Camps

Kids Camps (8-12 years old):

5 Camps Offered

> Java & Robotics
> Python and Pygame & Robotics
> Arduino & Robotics
> Python and Computer Vision & Robotics
> Intro to C++

Teens Camps (13-19 years old):

5 Camps Offered

> Java with Android Studio
> Python and Pygame
> C++
> Arduino Advanced
> Python and Computer Vision

Please check the ***schedule*** to see if you are interested in a particular camp.

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System Requirements

Requirements for Kids and Teens Camps:

Laptops or PCs with the following **specifications**:

> Windows 10 Operating System
> 4 GB RAM minimum, **8 GB preferred**
> HDD 40 GB free
> Fast internet access
> Headphones with microphones preferred
> Free 30-60 minutes appointment with our technical staff to install all the required software ahead of camp. **Parent/Guardian required.**

OpenCV Pygame C++ ARDUINO python Java®

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Summer 2021 Kids Schedule

Kids Camps (9 AM - 12 PM):

> July 5th— July 9th: **Arduino & Robotics**

> July 12th— July 16th: **Python and Pygame & Robotics**

> July 19th— July 23th: **Intro to C++ & Robotics**

> July 26th— July 30th: **Python-Computer Vision & Robotics**

> Aug. 3rd— Aug. 6th: **Java & Robotics**

> Aug. 9th— Aug. 13th: **Python and Pygame & Robotics**

> Aug. 16th— Aug. 20th: **Arduino & Robotics**

> Aug. 23rd— Aug. 27th: **Java & Robotics**

Summer 2021 Teens Schedule

Teens Camps (1 PM - 4 PM):

> July 5th— July 9th: **Arduino**

> July 12th— July 16th: **Python and Pygame**

> July 19th— July 23th: **C++**

> July 26th— July 30th: **Python-Computer Vision**

> Aug. 3rd— Aug. 6th: **Java**

> Aug. 9th— Aug. 13th: **Java with Android Studio**

> Aug. 16th— Aug. 20th: **Arduino**

> Aug. 23rd— Aug. 27th: **Python and Pygame**

ARDUINO OpenCV Java Pygame C++ python ®

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PYTHON and Pygame CAMPS

KIDS

Intro to Python – Practical

Students will be introduced to Python programming language. Python is a high-level programming language used in many universities and work institutions. Python is powerful and fast, yet friendly and easy to understand. Students will learn the fundamentals of coding using Python Turtle.

Intro to Game Program-

Students will learn step by step how to develop a working 2D game from designing characters, game rules and developing multiple game levels. In this course students will be introduced to Object Oriented Programming using Python Pygame. Games are highly portable capable to run on nearly every platform and operating system.

TEENS

STEM + Python Turtle

Students will learn about three STEM subjects: Solar System, Bridge Building and Gravity. For each subject, students will create programs in Python to simulate and demonstrate understanding. This course is based on the material developed in our STEM Club

Advanced Game Programming

Students will develop a multi-level game using Pygame using Object Oriented Programming integrating all the concepts learned.

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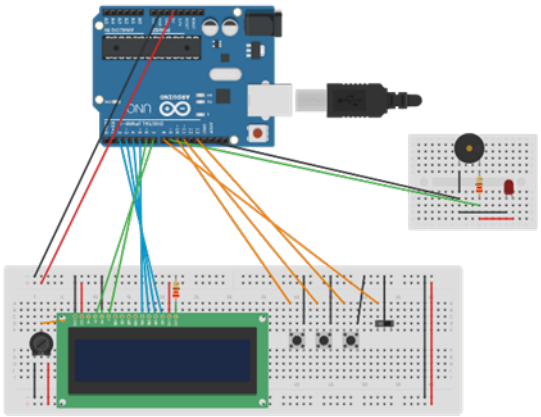
Arduino CAMPS

KIDS

Introduction to Arduino

Students will learn coding in C with Arduino Uno Wi-Fi Board working with digital interfaces to control different arrays of LEDs virtually using Virtual Breadboard. Moreover, students will learn basic concepts of Electronics and Electricity through experimentation and hands-on activities including building of circuits on breadboards. Virtual Breadboard license is $38.99 plus GST.

TEENS



Arduino Advanced

Working with simulators is a fundamental skill required in Engineering to develop troubleshooting and collaboration skills. Moreover simulators help students develop discipline to conduct tests prior to prototyping. We selected Virtual Breadboard for this purpose. In addition can continue practicing at home as they will have their own accounts. Virtual Breadboard license is $38.99 plus GST.

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Java CAMPS

KIDS

Introduction to Java

Students will learn fundamentals of Java, type of variables, statements and operators, arrays, methods, and control structures. Moreover, we will expand into Object-oriented programming System (OOPs) concepts. We will cover each and every feature of OOPs in detail : Abstraction, Encapsulation, Inheritance and Polymorphisms. The section for Input /Output has included here too.

TEENS

Advanced Android Studio

Android Studio is a powerful tool based on Java. Students will learn how to work with API (Application Programming Interfaces), Project Structure, gradle, libraries, methods, onCreate() method, MainActivity and XML Layout. Students will learn how to create Apps for Android Tablets using Android Studio.

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C++ CAMPS

KIDS

Introduction to C++

Students will learn fundamentals of C++, type of variables, statements and operators, arrays, methods, vectors, structs. Moreover, students will expand into Classes, Structs and Public and Private specifiers.

TEENS

Advanced C++

Students will learn fundamentals of C++, type of variables, statements and operators, arrays, methods, vectors, structs. And pointers. Moreover, we will expand into Object-oriented programming System (OOPs) concepts. We will cover each and every feature of OOPs in detail : Inheritance and Polymorphisms. Exception Handling in C++ responding to unexpected events scenarios.

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Python Computer Vision CAMPS

KIDS

Introduction to Computer Vision

Students will learn about the fundamentals of Computer Vision using Python OpenCV. This course is designed to prepare students for more difficult and concepts in robotics and machine learning.

Students also learn how to apply advance algorithms using OpenCV for image processing including shape detection and object detection.

TEENS

Advanced Computer Vision

Students will learn the practical applications of computer vision in robotics and mobile applications such as QR code recognition, OCR recognition. Last part of the course focuses on integration with the application of AI to play

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