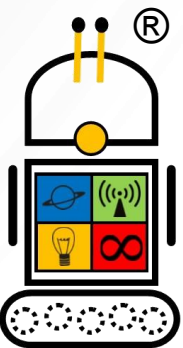# ROBO-GEEK – WORKSHOPS

ROBO-GEEK INC.

- **Robo-Geek** is a technology company founded by engineers to promote **STEM**, with the aim to foster students' confidence and "**I Can do it**" attitude.

- Our staff consists of *passionate engineers* who have carefully designed all the courses to ensure the best learning experience for each student.

- Our courses are designed for students in grade 2 through 12 to introduce them to the fundamentals of **Coding, Electronics and Robotics**.

- Each course includes hands-on work with computers, electronic boards, robots and unique labs that encourage self-learning and experimentation.

- Our advanced courses submerge the students in exciting subjects of **Game Programming, Computer Vision and Swarm Robotics**. Students are encouraged to experiment and *unleash their imagination*.
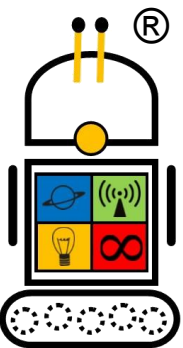
ROBO-GEEK INC.

- **Hands-on Experience.** Our students learn by doing, Robo-Geek's sessions consists of fifteen minutes of lecture and 30 minutes of lab. Each Robo-Geek lab has been tested and designed to optimize topics comprehension .

- **Continuous Innovation.** Our courses are at the leading edge of technology. We pride ourselves in the development and continuous innovation of our unique labs.

- **Promotion of STEM.** Our labs and exercises focus on expanding the student's learning experience in science, technology, engineering and mathematics.

- **Swarm Robotics.** A new approach to the coordination of multi-robot systems, working together by selecting their communication patterns.
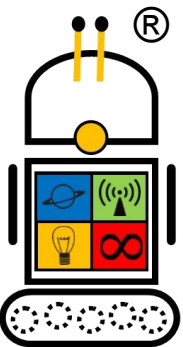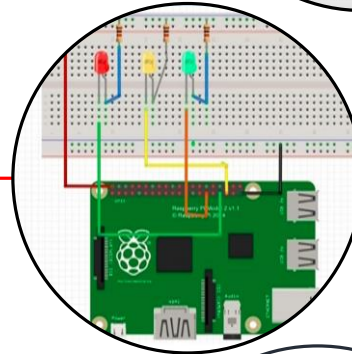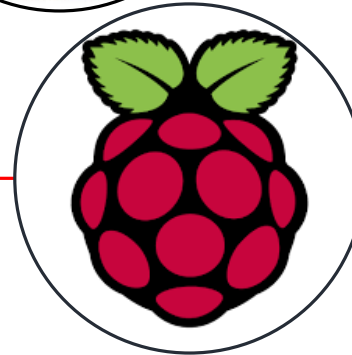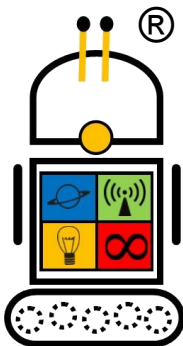
OUR PHILOSOPHY
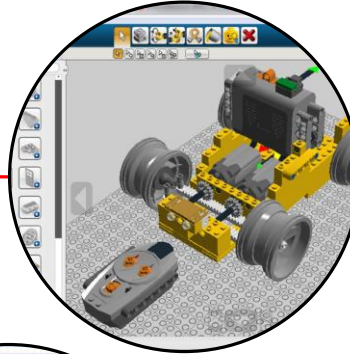
Robotics & AI
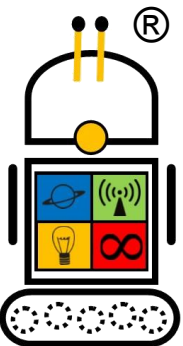
Electronics & Mechatronics

Coding

IMAGINE THINK CREATE
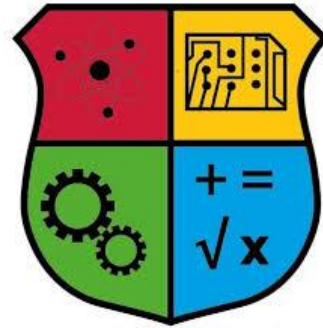
MILESTONES

- Founded in 2015 at Milton location started with two courses, 10 Raspberry Pis and a lot of dreams

- In early 2016 moved to **Milton Education Village** where we have been part of an amazing community of technology entrepreneurs

- In the fall of 2016 we launched STEM Club and Robotics Club. Our commitment to stay current and innovate.

- In 2017 we solidified a Re-sellers partnership with **EZ-robots** and **Qihan Technologies**

- Summer of 2017 we opened our new location in Brampton

- Fall 2017 we launched our Self Driving car project with STEM club

- In 2018 we continue our expansion and supported multiple workshops across GTA with students from JK to G12 and with many educators

- Fall 2018, we added ROS (Robotics Operating System) in our curriculum

ACCOMPLISHMENTS

Omar Silva Fulchi owner of Robo Geek a company that teaches programming and robotics

DISCOVER A COMMUNITY OF ENTREPRENEURS IN MILTON ONTARIO.

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- Over 1600 students in the past 4 years

- 27 courses now offered in our programs: RG-100 to RG-800 level

- 25 completed projects with STEM and Robotics clubs

- 28 workshops in STEM, Coding and Robotics

- Our team has grown to 5 instructors and 8 teaching assistants (students)

- Offered over $5000 in scholarships with multiple partnerships in our communities.
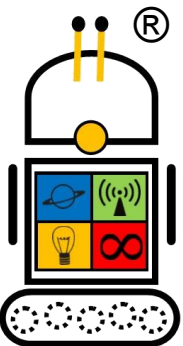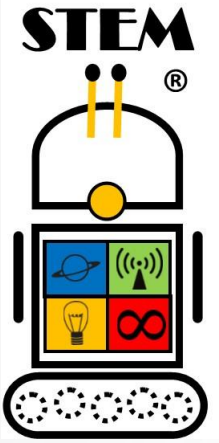
ROBO-GEEK WORKSHOPS

SUPPORTING EDUCATORS WITH STEM CURRICULUM
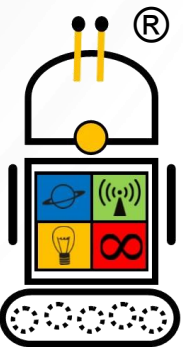
ABOUT OUR WORKSHOPS

- Unique in Canada. Developed by Robo-Geek team to maximize learning process with hands-on approach to learning.

- Robo-Geek offers a variety of single day workshops for school field trips and we work with private and public schools with special requests requiring multiple day workshops.

- Robo-Geek has two facilities: Milton and Brampton capable of accommodating 30 students at the time. Bigger groups may be accommodated with 2 weeks notice.

- Upon request and depending on school facilities, our team can deliver workshops at your facilities.

- Our workshops are aligned with Ontario Curriculum for Elementary and Secondary for Science, Mathematics and Technology
  - http://www.edu.gov.on.ca/eng/curriculum/elementary/index.html
  - http://www.edu.gov.on.ca/eng/curriculum/secondary/index.htm

GRADES 1-8 SCIENCE AND TECHNOLOGY

STRANDS IN THE SCIENCE AND TECHNOLOGY CURRICULUM

The science and technology curriculum expectations are organized in four strands, which are the major areas of knowledge and skills in the science and technology curriculum.

The four strands are as follows:

- Understanding Life Systems
- Understanding Structures and Mechanisms
- Understanding Matter and Energy
- Understanding Earth and Space Systems

Ontario Science Curriculum – Science and Technology Studies Grades 1-8

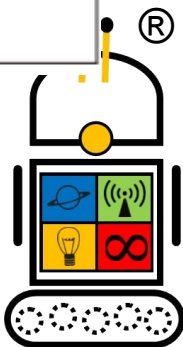| Elementary Science and Technology Curriculum Overview			
	Understanding Life Systems	Understanding Structures and Mechanisms	Understanding Matter and Energy	Understanding Earth and Space Systems
Grade 1	Needs and Characteristics of Living Things	Materials, Objects, and Everyday Structures	Energy in Our Lives	Daily and Seasonal Changes
Grade 2	Growth and Changes in Animals	Movement	Properties of Liquids and Solids	Air and Water in the Environment
Grade 3	Growth and Changes in Plants	Strong and Stable Structures	Forces Causing Movement	Soils in the Environment
Grade 4	Habitats and Communities	Pulleys and Gears	Light and Sound	Rocks and Minerals
Grade 5	Human Organ Systems	Forces Acting on Structures and Mechanisms	Properties of and Changes in Matter	Conservation of Energy and Resources
Grade 6	Biodiversity	Flight	Electricity and Electrical Devices	Space
Grade 7	Interactions in the Environment	Form and Function	Pure Substances and Mixtures	Heat in the Environment
Grade 8	Cells	Systems in Action	Fluids	Water Systems

Grade 9 and 10 Technological Education Curriculum Overview			
Grade 9	Exploring Technologies
Students will be given the opportunity to explore technology concepts that they will need in order to create designs, utilize software, fabricate products, document events, and prepare goods and services. This exploratory course provides a link between the concepts and skills studied in the elementary science and technology strand called Understanding Structures and Mechanisms and the topics studied in various subject areas of broad-based technology. Students will gain awareness of educational and training requirements for technology-related opportunities.			
Grade 10	Hairstyling and Aesthetics

Health Care

Hospitality and Tourism | Technological Design

Manufacturing Technology

Construction Technology | Communications Technology

Computer Technology

Transportation Technology | Green Industries |

GRADES 1-8 SCIENCE AND TECHNOLOGY

Elementary Science and Technology Curriculum Overview

	Understanding Life Systems	Understanding Structures and Mechanisms	Understanding Matter and Energy	Understanding Earth and Space Systems
Grade 1	Needs and Characteristics of Living Things	Materials, Objects, and Everyday Structures	Energy in Our Lives	Daily and Seasonal Changes
Grade 2	Growth and Changes in Animals	Movement	Properties of Liquids and Solids	Air and Water in the Environment
Grade 3	Growth and Changes in Plants	Strong and Stable Structures	Forces Causing Movement	Soils in the Environment
Grade 4	Habitats and Communities	Pulleys and Gears	Light and Sound	Rocks and Minerals
Grade 5	Human Organ Systems	Forces Acting on Structures and Mechanisms	Properties of and Changes in Matter	Conservation of Energy and Resources
Grade 6	Biodiversity	Flight	Electricity and Electrical Devices	Space
Grade 7	Interactions in the Environment	Form and Function	Pure Substances and Mixtures	Heat in the Environment
Grade 8	Cells	Systems in Action	Fluids	Water Systems

Grade 9 and 10 Technological Education Curriculum Overview

Grade 9	Exploring Technologies Students will be given the opportunity to explore technology concepts that they will need in order to create designs, utilize software, fabricate products, document events, and prepare goods and services. This exploratory course provides a link between the concepts and skills studied in the elementary science and technology strand called Understanding Structures and Mechanisms and the topics studied in various subject areas of broad-based technology. Students will gain awareness of educational and training requirements for technology-related opportunities.			
Grade 10	Hairstyling and Aesthetics Health Care Hospitality and Tourism	Technological Design Manufacturing Technology Construction Technology	Communications Technology Computer Technology Transportation Technology	Green Industries

Ontario Science Curriculum – Science and Technology Studies Grades 1-8
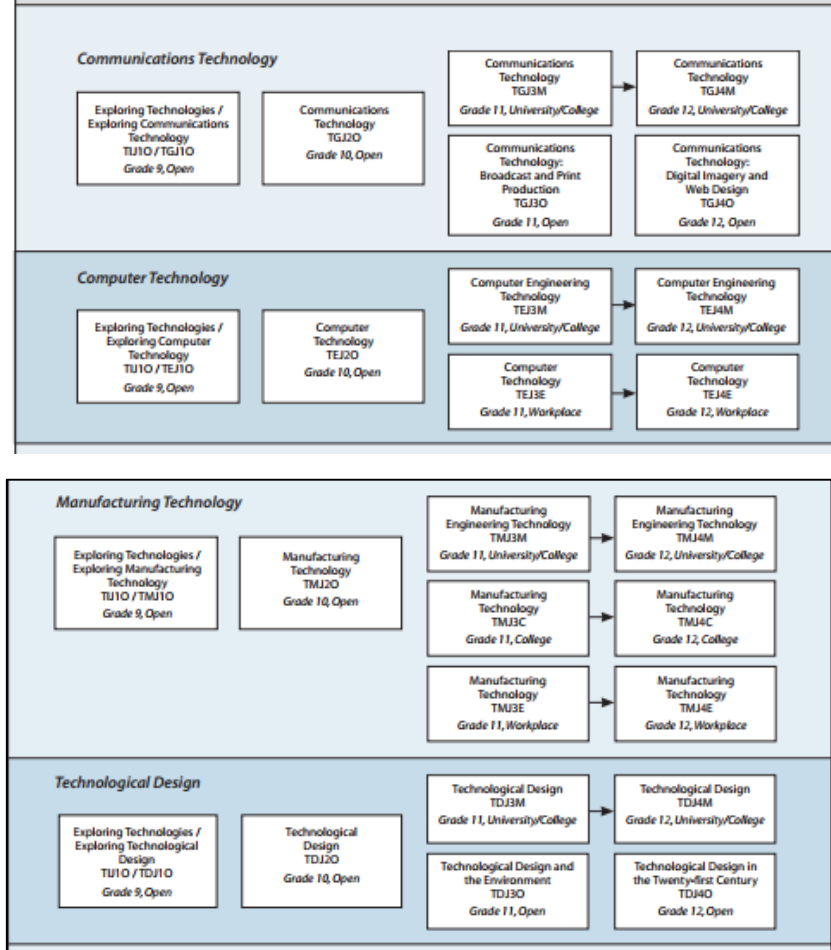
Available Workshops:

RG-STEM-01: Bridge Design   G 1,2,3,4,
RG-STEM-02: RPI (Raspberry PI)   G 5,6,7,8
RG-STEM-03: Solar System   G 6, 7
RG-STEM-04: Turing Machine-AI   G 6, 7, 8
RG-STEM-05: Gravity   G 4, 5, 6
RG-STEM-06: Intro to Electricity G 6, 7, 8
RG-STEM-07: Neural Networks   G 7, 8
RG-STEM-08: Self Driving Cars   G 7, 8
RG-STEM-09: Intro to Robotics   G 5, 6, 7, 8
RG-STEM-10: Intro to Coding   G 1,2,3,4
RG-STEM-11: Intro to Python   G 5,6,7,8
RG-STEM-12: Intro to Arduino   G 5,6,7,8
RG-STEM-13: Mini Factory   G 7, 8
RG-STEM-26: Combo Coding   G 5,6,7,8
RG-STEM-29: Plane Workshop   G 1,2,3,4
RG-STEM-31: Telephone Workshop   G1,2,3,4
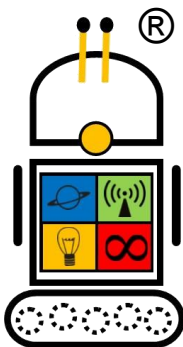
GRADES 9-12 TECHNOLOGY

Available Workshops:

RG-STEM-04: Turing Machine -AI   G 9-12
RG-STEM-07: Neural Networks   G 9-12
RG-STEM-08: Self Driving Cars Intro   G 9-12
RG-STEM-11: Python   G 9-12
RG-STEM-15: Electronics + Arduino   G 9-12
RG-STEM-16: Neural Networks Advanced   G 9-12
RG-STEM-17: Self Driving Cars Advanced   G 9-12
RG-STEM-18: Computer Vision with Python   G 9-12
RG-STEM-19: Manufacturing Workshop   G 11,12
RG-STEM-20: Internet of Things   G 9-12
RG-STEM-21: Introduction to Java   G 9-12
RG-STEM-24: Android Studio   G 9-12
RG-STEM-25: Introduction to C#   G 9-12
RG-STEM-27: Android Studio with Sanbot Elf G 9-12
RG-STEM-28: Pygame   G 9-12

Ontario Science Curriculum – Technology Education Grades 9-10
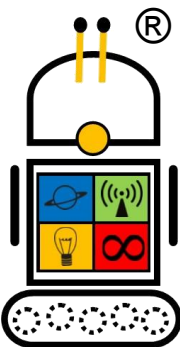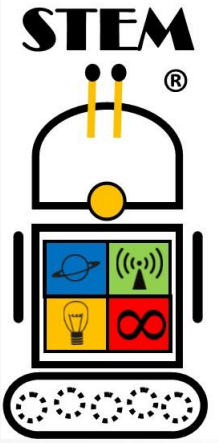
ROBO-GEEK INC.

LIST OF SCHOOLS FOR WORKSHOPS (ON-SITE & AT ROBO-GEEK)
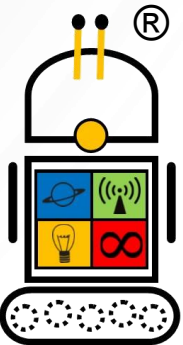
Fairlawn Public School - Milton

Meadowvale Secondary School - Mississauga

St. Vincent de Paul School -Mississauga

Montessori School of Milton

Montessori School -Caledon

Halton Hills Public Library

Montessori School of Milton

Walden International School

Sterling Education – Mossley Campus

✚St. Cecilia School -Brampton

T.L. Kennedy Secondary School- Mississauga

Wali ul Asr Learning Institute

Al Huda Elementary School- Mississauga

Columbia International College - Hamilton

Grand Erie District School Board

St. Timothy's- Burlington

MM Robinson High School - Burlington

Lakeview Montessori- Windsor