

# Educator Webinar Series: *Tools & Tips for Virtual STEM Summer Camps*

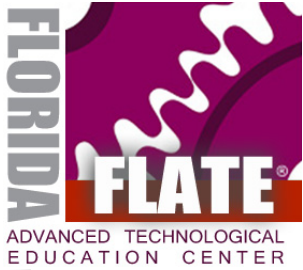
January 21, 2021  
4:00-4:30 pm

# **Educator Webinar Series: Tools & Tips for Virtual STEM Summer Camps**

## **Agenda**

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- Introductions
- Online resources
- Tools for summer camps
- Online platforms & technology
- Q & A



# Who we are



**Dr. Marilyn Barger**  
Director



**Danielly Orozco-Cole**  
Program Manager  
Career and Technical Education

Florida Advanced Technological Education Center

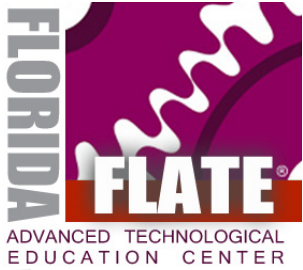


# Guest Speaker



## **Desh Bagley**

Director - IT/Coding Academy, State College of Florida  
Founder - TechPlayzone



# Who we are

## Florida Advanced Technological Education Center

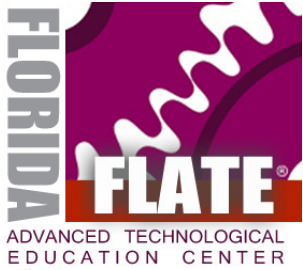


Strengthening Career & Technical Education for the 21<sup>st</sup> Century Perkins V Act, State Leadership

# VISION

**FLATE** will drive  
Florida's World-class  
Manufacturing  
Workforce Education





# FLATE'S Work



Curriculum Reform  
and Development



Educator Professional  
Development



Outreach and  
Student Recruitment

**Impact locally. Lead nationally.**

# Welcome

## Tools & Tips for FUN Virtual Camps





# Pre-Camp Planning

## Camp Planning and Preparations

### Determine the following

- Topics, budget
- Platforms
- Staff and volunteers

### Communication

- System and software requirements
- Equipment requirements
- Train staff and volunteers

### Marketing and Media

- Flyers and social media
- Press releases

### Collaboration and Celebration

- Online tools to share projects
- Share videos and pictures
- Invite sponsors to hear presentations

## HCC Robotics & Engineering Virtual Summer Camps

### Middle School Robot Virtual Worlds

July 6<sup>th</sup> – Virtual Robotics Camp Free Preview

July 13<sup>th</sup> – Virtual Robotics Camp II



Registration Info: <https://www.suncoastfl.org/hcc-camps.html>

#### Camp Details:

Middle and High School Campers  
Monday – Friday Morning Camps

#### Software and Hardware Requirements:

ZOOM needed for all camps  
Robot Virtual Worlds: 64-Bit PC / 4MB RAM / Windows 10  
Camp Aspire – Ukit App for Android or Apple Device

July 6<sup>th</sup> Robot Virtual Worlds - Virtual Camp I - Free Preview

July 13<sup>th</sup> Robot Virtual Worlds - Virtual Camp II - \$75.00

July 20<sup>th</sup> - All Girls Camp Aspire – \$175.00

July 27<sup>th</sup> – High School Advanced Camp Aspire - \$175  
**(robot kit will be returned at the end of the week)**

*Advanced Camp Aspire requires refundable deposit*

#### For camp information and payment contact:

Desh Bagley [dbagley5@hccfl.edu](mailto:dbagley5@hccfl.edu) (813) 444-2267



### CAMP ASPIRE – Virtual Camp with Kit Included

July 20<sup>th</sup> – All Girls Robotics Camp Aspire

July 27<sup>th</sup> – High School Robotics Advanced Camp Aspire



Quality at-home summer programs in robotics & engineering for middle and high school students.




# Camp Topics

# Robotics, Game Design, Minecraft, Coding, Electronics, 3D Design



**CAMP ASPIRE**  
 Introducing Camp ASPIRE!  
 Kids will build their skills in coding and engineering using LIVE virtual instruction alongside real robotics UKITs.  
**July 27 – Aug 1, 2020**  
 9am – 12noon


**Virtual High School Robotics and Engineering Camp**




Level up students' coding skills with UKIT Advanced. With more than 700 parts including 16 servos, sensors, complete circuitry kit, and an Arduino-compatible processor, UKIT Advanced offers endless challenges for high school students.

- For students entering 8<sup>th</sup> – 12<sup>th</sup> grade
- Kits will be on loan to all campers
- Arduino-based robots using A.I. modules
- Circuitry, Sensors, and Coding
- College and Career Exploration
- Hands-on learning, high tech fun

**Register Online Today!!**  
<https://tinyurl.com/yc72wn4g>



Need more camp info: Desh Bagley | [dbagley3@hccfl.edu](mailto:dbagley3@hccfl.edu) | (813) 444-CAMP



**TECHPLAYZONE**  
 Summer Camp 2020  
[www.techplayzone.com](http://www.techplayzone.com)  
 (813) 444-2267 | [techplayzone@gmail.com](mailto:techplayzone@gmail.com)

Coding with SCRATCH  
 Minecraft® for Jr. Engineers



**TECHPLAYZONE**  
 Where Bright Kids Play to Learn

TINKER CAD  
 3D PRINTING  
 MINECRAFT

**Virtual TechPlayzone Workshops**

Contact Us to Learn More

zoom

forever imagine program share

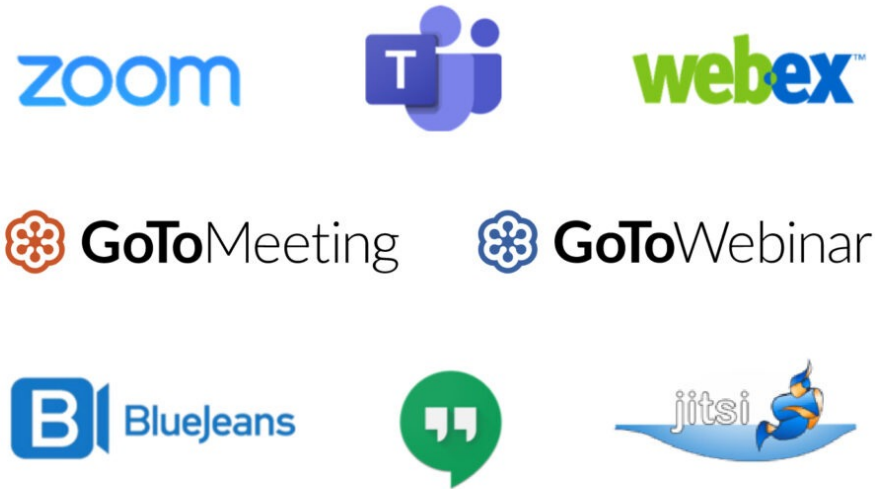
[www.techplayzone.com](http://www.techplayzone.com)  
 (813) 444-2267 | [techplayzone@gmail.com](mailto:techplayzone@gmail.com)




**CAMP ASPIRE**  
 Mrs. Desh Bagley  
 Instructor

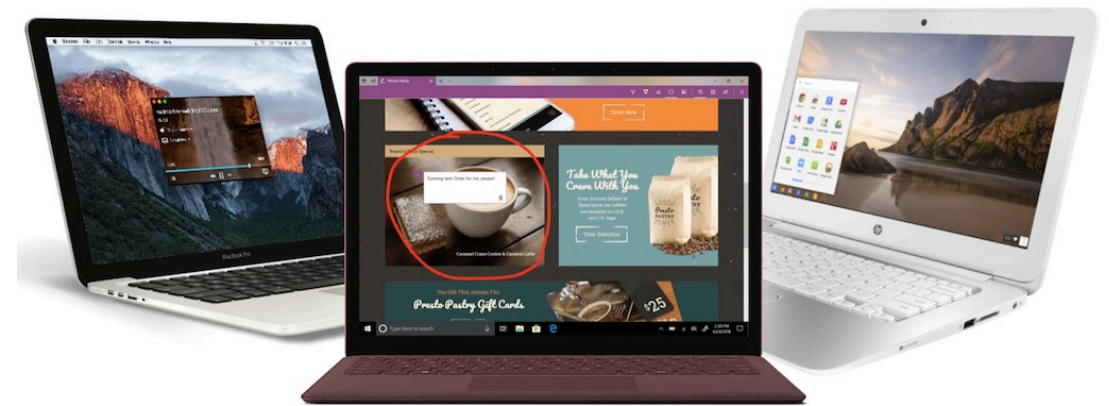
# Camp Platforms

## Meetings



Online Meeting Platforms

## Technology



Laptops, MacBooks, Chromebooks

# Online Resources

## FIRST @ Home



Bring learning to life with free and flexible  
PreK-12 STEM activities from *FIRST*®



<https://www.firstinspires.org/community/home-learning>

### — Coding, Programming, and Artificial Intelligence

Want to learn a new coding language, brush up on your programming skills or take it to the next level and dive into machine learning? These resources will help you develop computer science, coding and programming related skills.

- **Beginner/Intermediate - Scratch** - a block-based visual programming language similar to Spike Prime and *FIRST* Tech Challenge languages - Code interactive stories, animations, and games.
- **Beginner/Intermediate - Hour of Code** - a variety of tutorials in Python, Java, JavaScript, C++, Block Based.
- **Beginning to Advanced - AWS Educate** is Amazon's global initiative to provide students comprehensive resources for building skills in the cloud. It is a no-cost curriculum providing access to content, training, pathways, and AWS services. These two activities are a great way to start students the cloud-related learning content and resources on subjects from storage to machine learning.
- **Intermediate - Programming Electronics Academy** - Arduino programming course and [resource guides](#)
- **Intermediate/Advanced - Machine learning Projects** - Explore innovative topics and do projects or hands on challenges.
- **Intermediate/Advanced - AP Computer Science A in Java**
- **Intermediate/Advanced - Teachable Machine** - Train a computer to recognize your own images, sounds and poses. Great activities to do at home to practice generating machine learning software from collaboration with our friends at Google.
- **Beginner/Intermediate** - Our strategic partners at **Qualcomm® Thinkabit Lab™** are Inspiring the next generation of inventors by showing students that they can be part of inventing the wireless world of the future.
- Meet Ashley and Abakir, two #AmazonFutureEngineer Scholarship winners and #*FIRST* alumni, as they introduce this year's **Amazon Cyber Robotics Challenge!** Learn to code and complete the challenge this fall for a chance to win \$250 for your team. Learn more: [AmazonFutureEngineer.com/CyberRobotics](https://AmazonFutureEngineer.com/CyberRobotics)
- **Middle School** - 2 Part (90 minute activity) - Make a **chat bot** with Amazon Lex.
- **High School** - 3 Part (120 minute activity) - **Artificial intelligence** using cloud computing.

# Virtual Robotics

VR | File | TUTORIALS | ACTIVITIES | LEARN | <https://vr.vex.com/>

Code

- Sensing
  - Brain Sensing
    - reset timer
    - timer in seconds
  - Drivetrain Sensing
    - drive is done?
    - drive is moving?
    - drive heading in degrees
    - drive rotation in degrees
  - Bumper Sensing
    - LeftBumper pressed?
  - Distance Sensing
    - distance found an object?
    - distance in mm
  - Eye Sensing
    - FrontEye is near object?
    - FrontEye detects red?
    - FrontEye brightness in %
  - Location Sensing
    - position X in mm
    - position angle in degrees
  - Operators

```
when started
  forever
    drive forward
    if FrontEye is near object? then
      stop driving
```

LEGO education | home | share | <https://makecode.mindstorms.com>

Search...

- Brick
- Sensors
- Motors
- Music
- Loops
- Logic
- Variables
- Math
- Advanced

```
on start
  run large motor A at 100% for 5 rotations
  stop all motors
  show number large motor A angle at line 4
  forever
```

```
forever
  show string "Hello world" at line 1
  play sound effect communication hello
  tank motors B C = 50% 50%
```

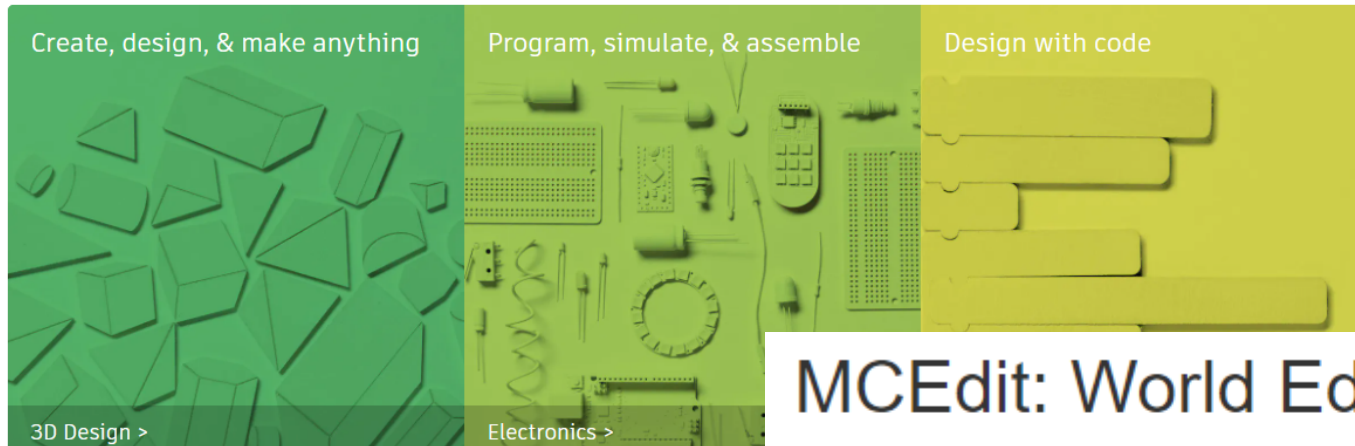
CoderZ™ <https://gocoderz.com/>



# Tinkercad

Tinkercad does:

<https://tinkercad.com>




**PrintLAB** – Online Tutorials for Tinkercad

<https://classroom.weareprintlab.com/>

## Designing in Tinkercad for 3D Printing



## MCEdit: World Editor for Minecraft

 MCEdit is a saved game editor for Minecraft. Since Minecraft saved games contain every single element of the world the player is playing in, it has much more in common with 3D world, map, and terrain editors than traditional saved game editors. MCEdit has been developed since 2010 with the original goal of allowing Classic levels to be played in the full version of Minecraft, but has since evolved into a full featured editor and is currently undergoing a thorough rewrite for version 2.0.

# Minecraft

<http://minecraft.net>



## WELCOME TO MINECRAFT

With new games, new updates, and new ways to play, join one of the biggest communities in gaming and start crafting today!

Be aware:

- Use the Computer - Java Edition Minecraft
- Laptops with enough memory for both Minecraft and remote meeting software





# Collaboration Tools



padlet

theriverseeker • 6mo

## Camp Resources

Advanced Camp

Slide Show	Codes	Videos	Graphic Organizers	The James Dyson Story	Challenges	Complete Robots
<p>Day 5 Slide Show</p> <p>Advanced Camp Slide Show Day 5 THE ... Powerpoint presentation padlet drive</p>	<p>Touch Sensor Line Follower Code</p> <p>Ultrasonic Line Follower Code</p> <p>Robotic Arm Code</p>	<p>Robots + Humans</p> <p>Ever wonder how people and robots tea... When Gregory Moss walks into work at a... us day one blog</p> <p>EDP</p> <p>Engineering Design Process</p> <p>The Engineering Design Process: A Taco... by KQED QUEST YouTube</p> <p>Mechanics</p>	<p>Flow Charts</p> <p>WHY PROGRAMMERS USE FLOWCHARTS</p> <p>Engineering Design Process</p>	<p>James Dyson: A design Engineer</p> <p>James' Story What is a design engineer?: James' Story... YouTube</p> <p>The Dyson Story</p> <p>James Dyson - Before They Were Billion... by Valuetainment YouTube</p> <p>Dyson Vacuum Questions</p> <p>1. How many prototypes/iterations did James Dyson struggle</p>	<p>Challenge: Autonomous Warehouse Bot</p> <p>Goal 3: Design and build a mobile robot that will change form to conserve warehouse floor space when in charge mode.</p> <p>Autonomous Warehouse Bot Challenge Powerpoint presentation padlet drive</p> <p>Advanced Robotic Arm Challenge</p> <p>Goal 2: Use mechatronics to mplete a common task in a warehouse or fulfillment center.</p> <p>Advanced Robotic Arm Challenge Powerpoint presentation padlet drive</p>	<p>Robotic Arm</p> <p>Robotic Arm</p>

<https://padlet.com/theriverseeker/melm6ma4zhkyubxa>

# Collaboration Tools



Flipgrid

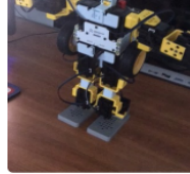


Record a Response



William C.

Jul 31



Benjamin C.

Jul 31



David S.

Line Following Robot



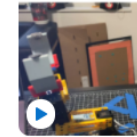
Ingibjorg B.

Robot following the line

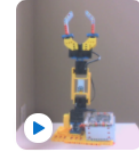


Leonardo V.

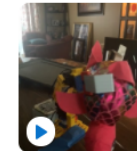
Jul 31



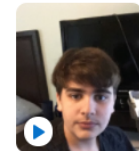
Jude



Shriya K



Eric Q.

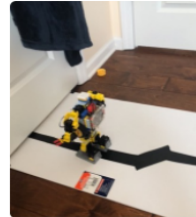


Hayden C.



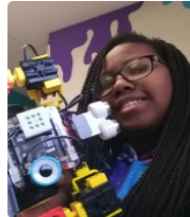
David L.

Jul 31



Nirav N.

Line following wall crashing robot



desharaB

transformer bot



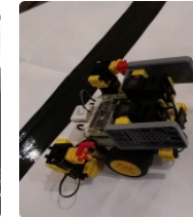
Jackson L.

robot following line



Dariya B.

line follower transformer

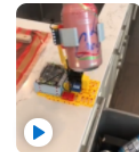


Deshara B.

Jul 30



Benjamin C.

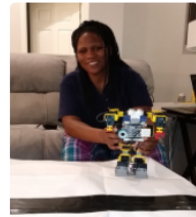


Simon A



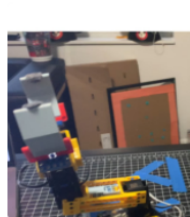
Deshara B.

line follower



Desh B.

Transformer



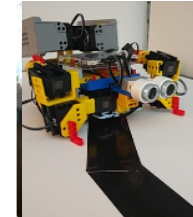
Jude

Jude's Robotic Arm



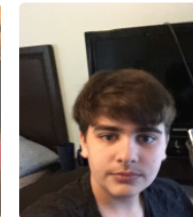
Shriya K

Jul 29



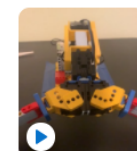
Eric Q.

JEFF

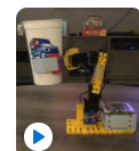


Hayden C.

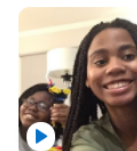
Robotic arm with an ultrasonic sensor



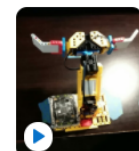
Leonardo V.



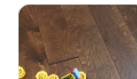
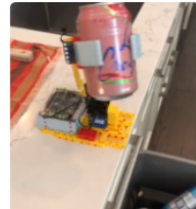
Mrs. Desh



Deshara B



David S.



<https://flipgrid.com/6e93a673>

# Camp Celebration



- Campers give presentations
- Celebrate accomplishments
- Invite sponsors to hear the campers

- Get photo release forms signed by guardians
- Take lots of screenshots
- Share those with media, parents, and sponsors



HCC CAMP ASPIRE - ALL GIRLS CAMP - MISSION TAMPA BAY

# Made in Florida Resources

A product of the Florida Advanced Technological Education Center, FLATE

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 [Salary Information](#) | 
 [Company Profiles](#) | 
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 [Videos](#) | 
 [Camps & Workshops](#)

**WHAT'S MADE IN FLORIDA?  
YOU'D BE SURPRISED!**

*High Wages! The average annual salary in the manufacturing field is \$48,000!*

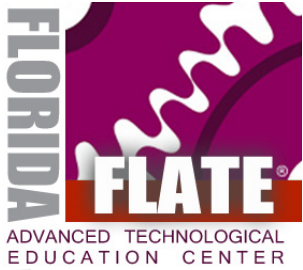
<http://madeinflorida.org/>

**FLATE's wiki**
www.MadeInFlorida.org  
 ...full of great FREE RESOURCES for you!

(CLICK ON IMAGES BELOW)

<b>Made in Florida STEM Lesson Plans</b> For Elementary, Middle & High School Educators	<b>Career Education Resources</b>	<b>Modules for Advanced Technological Education</b>	<b>The Toothpick Factory</b> A Simulating Game for Soft Skills	<b>Student Activity Sheets</b> Made in Florida 2015 TEACHER'S GUIDE
<b>Industry Tour Resources</b> MEG DAY FLORIDA! 10.03.18 Find pre-tour lessons, post-tour surveys and many resources for all your Made in Florida tours!	<b>WM WOMEN IN MANUFACTURING</b> Resources for Girls	FLATE Presentations, Publications, Meetings & Webinars FORUM NAC	<b>Professional Development Opportunities for all Educators</b>	<b>Camp Resources</b> STEM Summer Camps Robotics & Energy Camp Resources for everyone.
Read FLATE's Monthly Newsletter!	FLDOE Career resources	Learn more about Career Pathways!	Florida Association for Industrial & Technical Educator	

[www.flate.pbwiki.com](http://www.flate.pbwiki.com)



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FLATE Ed. Webinar Series:

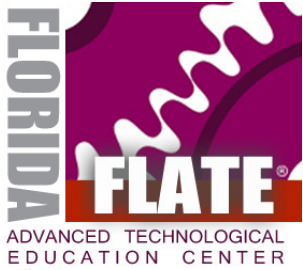
*Tools & Tips for Funding Tech Summer Programs*

Thursday, February 18<sup>th</sup> , 4:00 – 4:30 pm

Visit [FloridadaMakes/Events](https://floridamakes.com/Events) or Register [Here](#)



# Questions?



# Thank You!

## **Florida Advanced Technological Education Center-FLATE**

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Director

Danielly Orozco-Cole  
danielly.orozco-cole@flate.org  
CTE Program Manager

## **State College of Florida**

<http://coding.scf.edu>  
Desh Bagley (TechPlayzone)  
bagleyd@scf.edu  
IT/Coding Academy Director

*Presentation and link to the recording available at [www.flate.pbwiki.com](http://www.flate.pbwiki.com)*