CReating Effective STem Learning EXperiences (CRESTLEX 3.0)

Tuesday June 22, 2021 - Friday June 25, 2021

Are you curious about how Artificial Intelligence (AI) can be used to improve your everyday life? Do you ever wonder how your cell phone understands and responds to a question that you ask it? Have you heard the term Artificial Intelligence (AI), or Machine Learning (ML), but aren't sure about possible uses of ML or AI, or how you might prepare for a career in this field?

This first-of-its-kind, 1-week, hands-on/virtual course for high school teachers and students will give you experience in developing a real-world application of ML through hands-on examples of Tiny Machine Learning (TinyML). TinyML is a cutting-edge field that brings the transformative power of machine learning (ML) to small low-power computing devices. This course will expose participants to the applications, algorithms, hardware, and software of TinyML.

Participants will be given an Arduino Tiny Machine Learning Kit which they will use for hands-on exploration of the opportunities and challenges of TinyML by deploying and testing their own TinyML models. Following the completion of the course, students will be well positioned to excel in the HarvardX Professional Certificate Program in Tiny Machine Learning, a free online MOOC that dives deeper into the world of Tiny Machine Learning with more hands on experiences.

This program is a collaboration between Navajo Technical University, Harvard John A. Paulson School of Engineering and Applied Sciences, and Google, and will be run virtually from June 22 to June 25, 2021. The workshop is open to middle and high school teachers and students. We will be accepting up to 50 attendees and preference will be given to students and teachers enrolled at schools that serve the Navajo Nation. Visit http://www.tinymlx.org/CRESTLEX3/ for more information on this program and to apply before May 15, 2021. We look forward to exploring TinyML with you this summer.

Teachers selected for the workshop will be compensated for their time.

Tentative Workshop Schedule

Day	Date	Morning Session Intro Lesson	Afternoon Session Hands on with Hardware
Day 1	Tuesday, 6/22	**Introduction to TinyML**	**Deploying your first TinyML application: Keyword Spotting (aka "OK Google")**
Day 2	Wednesday, 6/23	**How can I use STEM/ML?**	**Building and deploying a customized Keyword Spotting model**
Day 3	Thursday, 6/24	**Crash Course: Arduino Coding 101**	**Hands on Arduino Programming**
Day 4	Friday, 6/25	**Hacking into off-the shelf Electronics**	**Final Code Exploration & Demo**

Contact crestlex-staff@googlegroups.com with any questions regarding this workshop.