

Yá'át'ééh 

CRESTLEX 3.0

CREating Effective STEM
Learning EXperiences

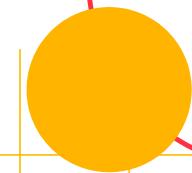
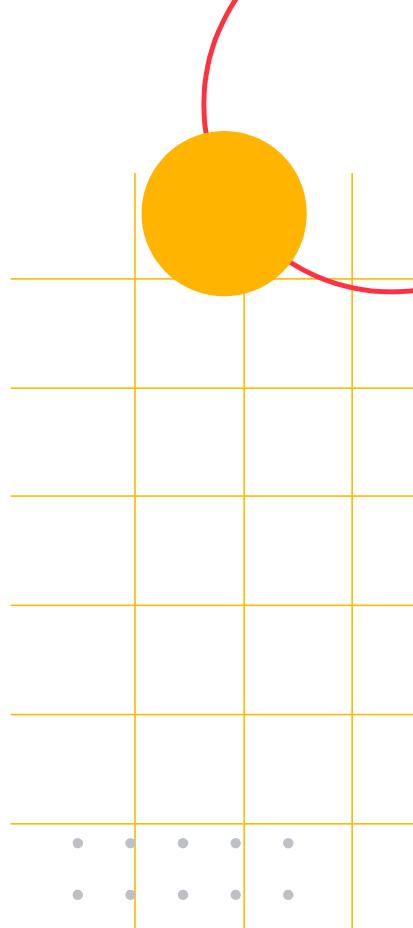
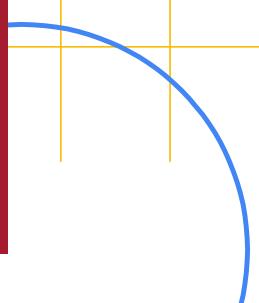
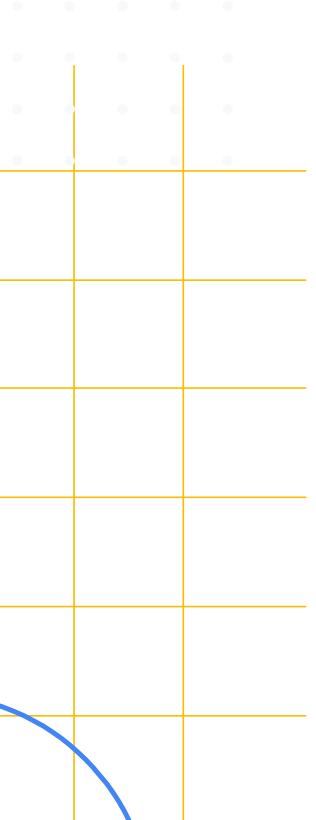
with Navajo Tech



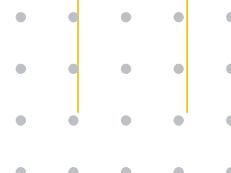
Before we go!

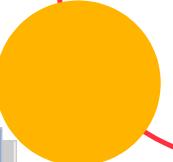
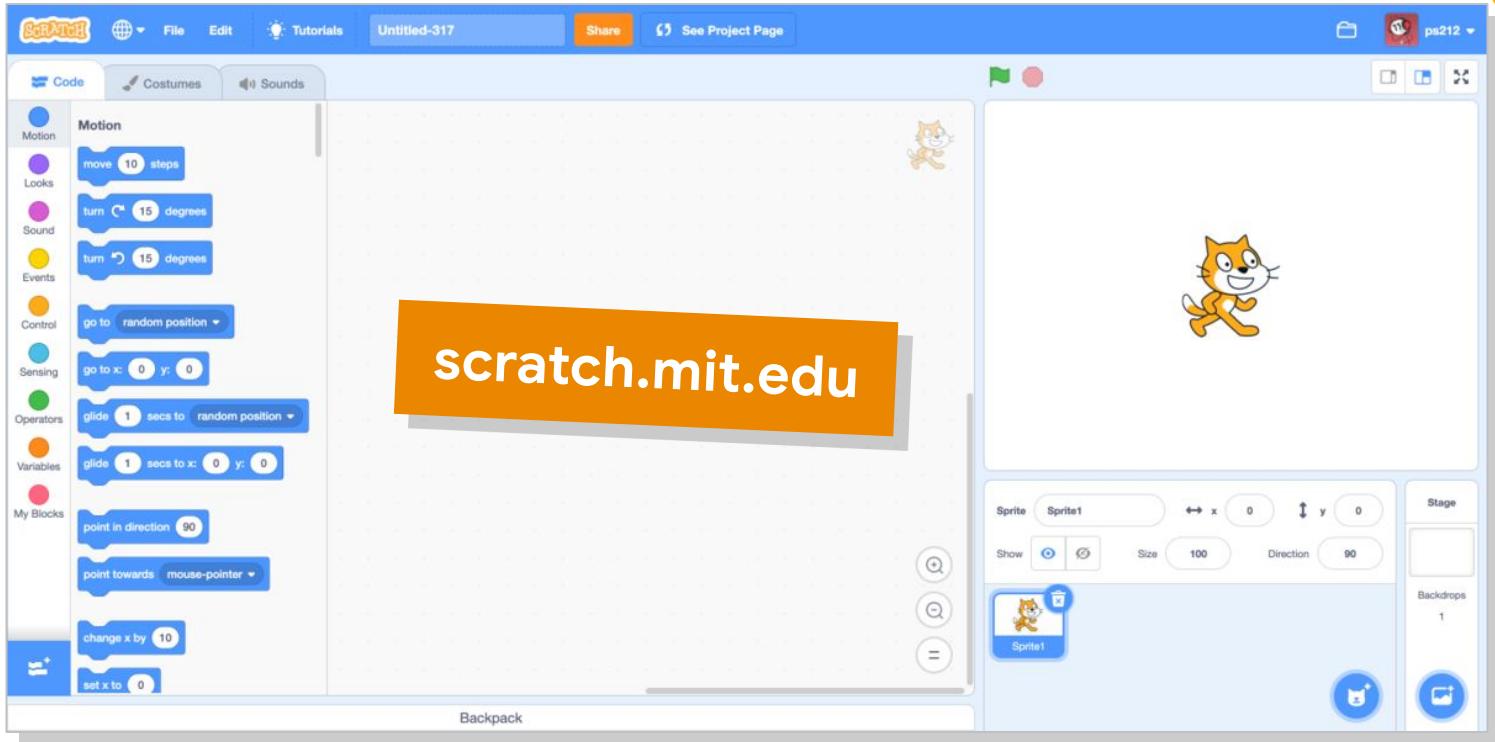
Student Resources

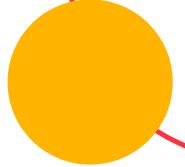
to **learn more** about AI and ML!



Learn programming!



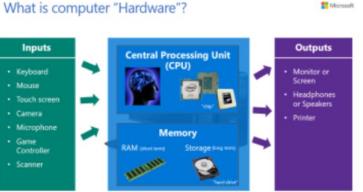




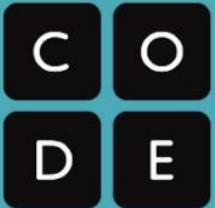
Microsoft MakeCode

Hands-on computing education

Example: Lesson 2 - What is Computer Science?

What Is a Computer	History of Computing	Hardware
<p>What is a Computer?</p> <p>A programmable device that stores, retrieves, and processes data</p> <p>Human Computers – performed numerical calculations using mechanical calculators (abacus, slide rule)</p> <p>Modern computer today –</p> <ul style="list-style-type: none">Runs on electricityHardwareSoftware	<p>History of Computers</p> <ul style="list-style-type: none">1832 – Charles Babbage invented the first mechanical computer, "Difference Engine"1843 – Ada Lovelace wrote the first computer program for Babbage's "Analytical Engine"1945 – first digital computer, "ENIAC" invented at the University of Pennsylvania weighed 50 tons!  	<p>What is computer "Hardware"?</p> 

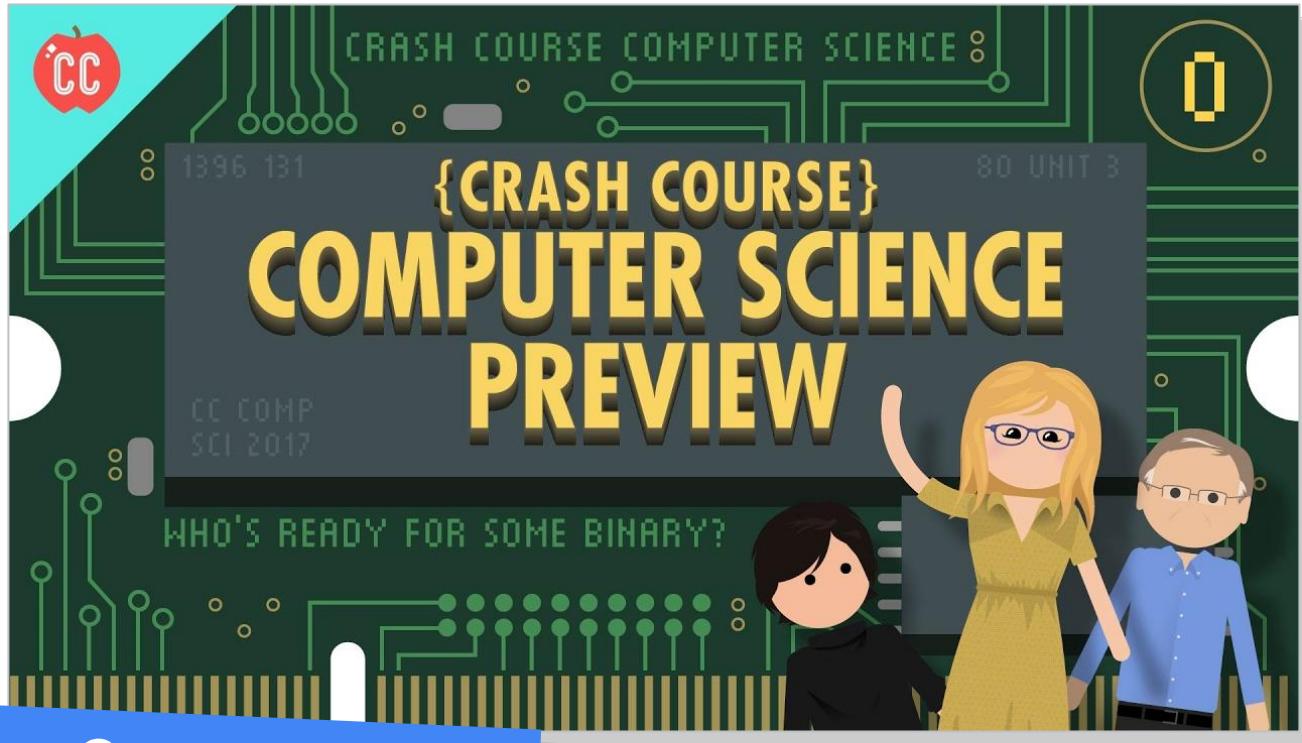




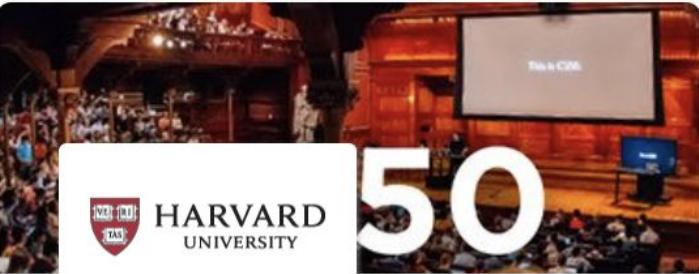
Curriculum Guide
2020-2021

Computer Science Principles

curriculum.code.org



CrashCourse



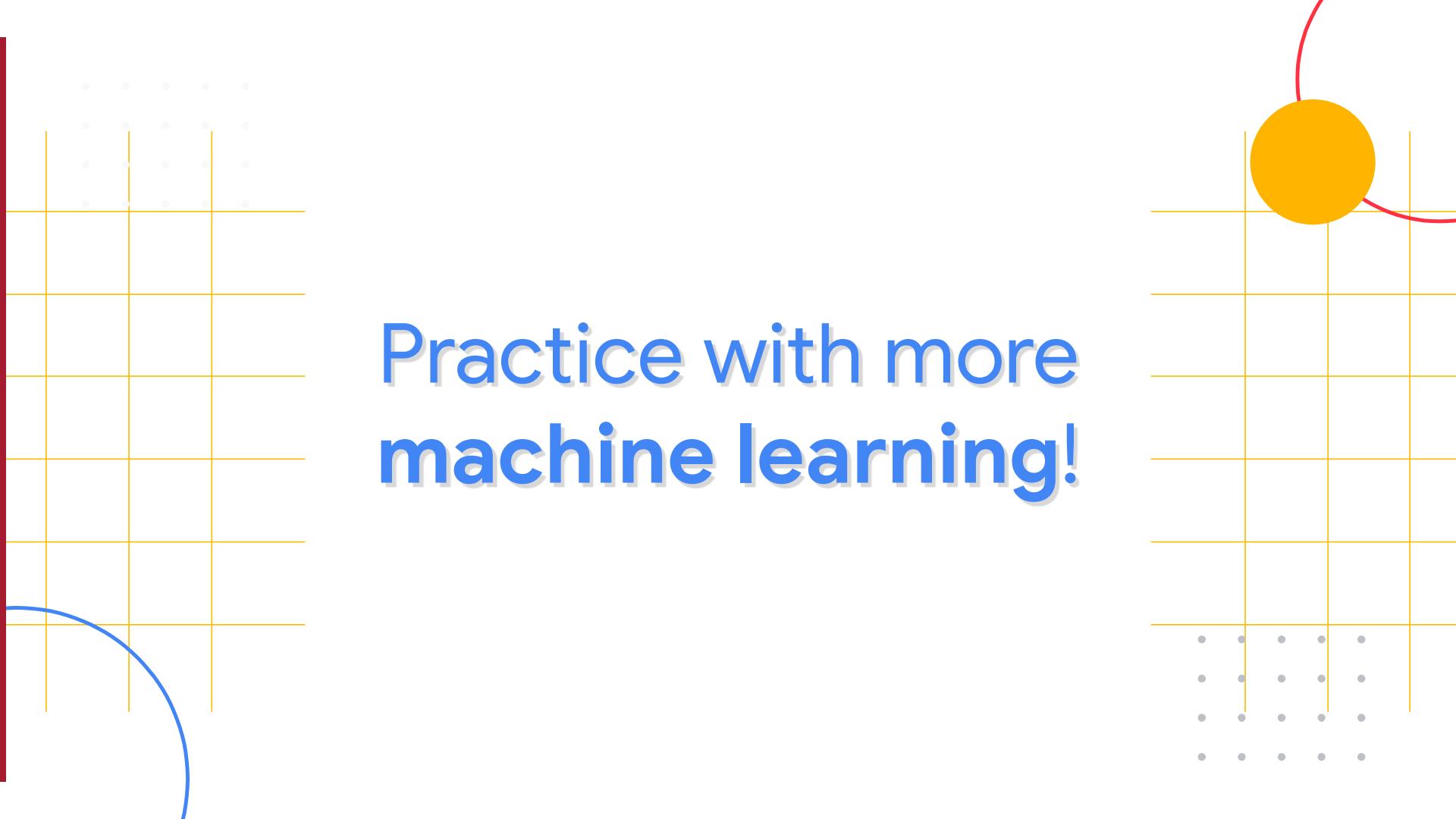
CS50's Introduction to Computer Science

HarvardX

Course

on edX.org





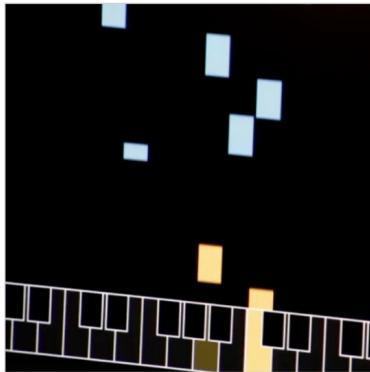
Practice with more machine learning!

AI + MUSIC

**FREDDIEMETER**

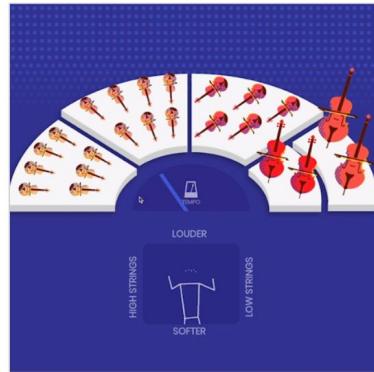
by Google Research, Google Creative Lab,
YouTube Music

An AI-powered singing challenge that rates
how closely your singing matches the voice

**AI DUET**

by Yotam Mann

A piano that responds to you.

**SEMI-CONDUCTOR**

by Google Creative Lab

Conduct your own orchestra in the browser by
moving your arms

experiments.withgoogle.com



Teachable Machine

Train a computer to recognize your own images, sounds, & poses.

A fast, easy way to create machine learning models for your sites, apps, and more – no expertise or coding required.

Snap

Clap

Get Started

mlo p5.js Coral Node.js TensorFlow.js

teachablemachine.withgoogle.com

Classification result

Summary

Name	helloworld.jan5.wav.1ncrr7qm.s17
Expected outcome	helloworld
CATEGORY	COUNT
helloworld	0
noise	0
unknown	1
uncertain	0

Detailed result

Show only unknowns

TIMESTAMP	HELLOWORLD	NOISE	UNKNOWN
0	0.36	0.01	0.62

Raw DATA

helloworld.jan5.wav.1ncrr7qm.s17

audio

0:01 / 0:01

Raw features

37, 34, 42, 36, 14, 1, -3, -9, -7, -10, -20, -29, -26, -21, -23, --

MFCC (1,649 samples)

X Axis Y Axis Z Axis

Visualization layer Visualization layer Visualization layer

- helloworld
- noise
- unknown
- classification 0

edgeimpulse.com

Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning

★★★★★ 4.7 15,457 ratings |  96%



Laurence Moroney

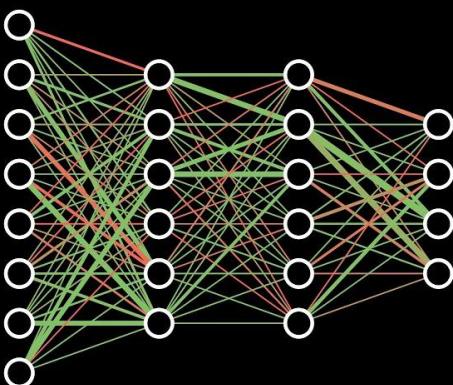
Enroll for Free

Starts Jun 24

Financial aid available

coursera

Neural Networks



From the
ground up

3Blue1Brown

The Future of ML is Tiny and Bright



HARVARD
UNIVERSITY

Professional Certificate in
Tiny Machine Learning (TinyML)

I'm interested

Courses in this program



HarvardX's Tiny Machine Learning (TinyML) Professional Certificate



Fundamentals of TinyML



Applications of TinyML



Deploying TinyML

tinymlx.org





Explore projects

Trending ▾

All difficulties ▾

Featured ▾

Any type ▾

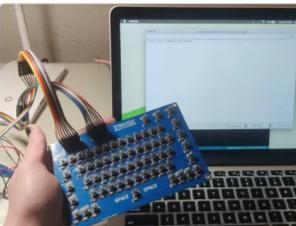


Getting Started with the Raspberry Pi Pico

Arduino "having11" Guy

15

2.5K



64-Key Prototyping Keyboard Matrix for Arduino

Cameron Coward

19

6.8K



ML-Based Bird and Squirrel Detector (Raspberry Pi and AWS)

Mike Sadowski

31

5.3K



Self-Playing Melodica

touchmysound

30

3.9K

hackster.io

build something

hackster.io

Google search

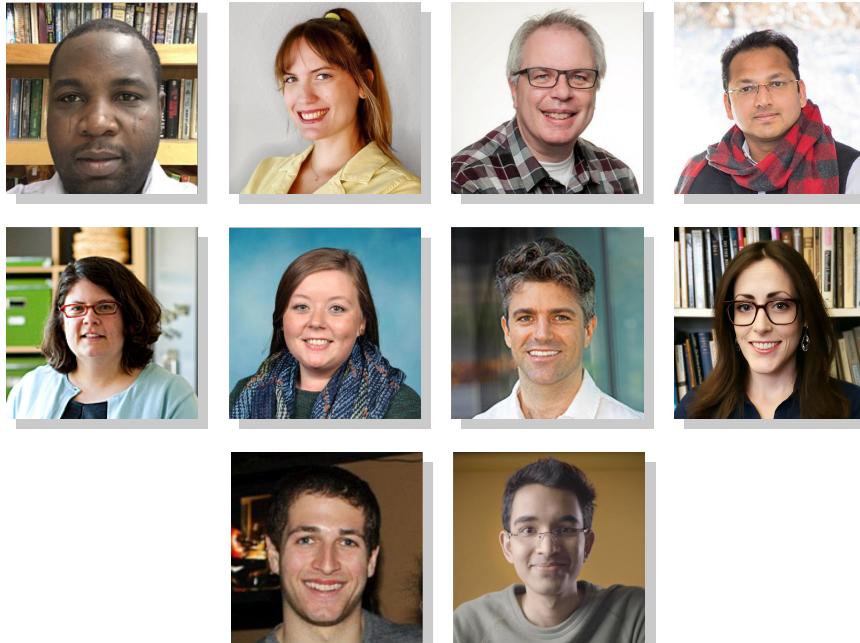
Stack Overflow

Our website!

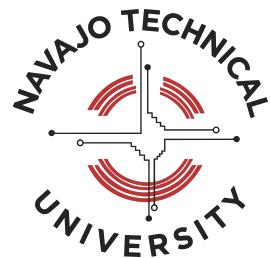
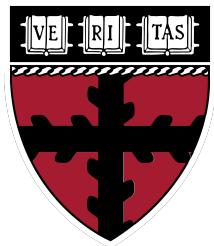
tinymlx.org/CRESTLEX3/

home base for **all information!**

Our team!



with help from **many more**





hágoónee' 🙌

**keep in touch with us!
look out for emails re: survey & stipend!**