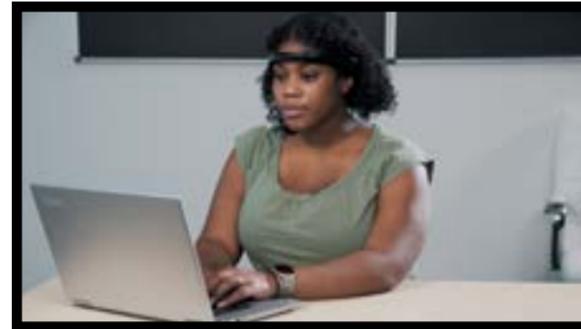# Our Cutting-Edge Product: NeuroMaker Hand
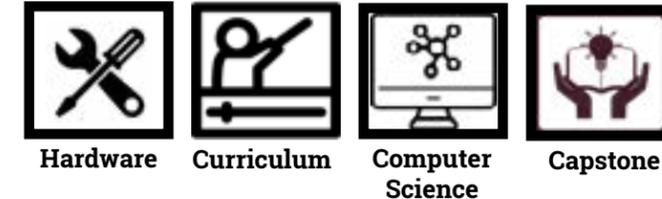
NeuroMaker BCI
The World's First Brain-Computer Interface STEM Kit.

Introduce your students to the cutting-edge world of BCI technology with our powerful, accessible STEM learning platform. NeuroMaker BCI combines a precise EEG headband with dozens of activities for neuroscience, machine learning, signal processing, as well as the ethics and impact of the technology in society.

Developed in partnership with NeuroTechX, a global non-profit organization dedicated to the advancement of neurotech education, the BCI curriculum delivers hours of engaging instructional content that aligns with selected **CSTA, NGSS, CC, ISTE and other national standards.**

Student Learning Opportunities:
4 Key Tenets of Brain Computer Interface Technology

Neuroscience	Signal Processing	Machine Learning	Ethics and Impact
Learn the structure and biology of the brain that can be measured with EEG technology.	Sort and analyze large data sets using python-based data science techniques.	Apply machine learning algorithms to categorize brainwave data. .	Evaluate the social and ethical impacts that advanced technology will have in the future.
Brain Computer Interface practitioners must master basic neuroscience to understand the source and meaning of measurable brain activity.	BCI practitioners must recognize patterns in data and filtering relevant brain signals from unwanted noise.	BCI practitioners must understand the application of machine learning to complicated neurological data sets.	BCI practitioners must understand the social impact of BCI technology and its ethical use to ensure the safe and moral applications of this technology.

Let the complete solution of our Four Pillars support your vision

Hardware   Curriculum   Computer Science   Capstone

(Pillar 1) Hardware

Our NeuroMaker BCI

(Pillar 2) Just like our NeuroMaker Hand, our standards-aligned Curriculum is included with purchase.
20+ hours of content and constantly adding.

Available units/modules with lessons:
Course Introduction
Lesson 1: NeuroMaker BCI 101
Lesson 2: Setting Up Your Technology

NeuroMaker Introduction to EEG
Lesson 1: Neuroscience Fundamentals
Lesson 2: EEG Fundamentals
Lesson 3: EEG Artifacts
Lesson 4: Attention and Meditation Lab
Lesson 5: Neurofeedback Lab

Brain Computer Interface and Machine Learning
Lesson 1: Introduction to Supervised Machine Learning
Lesson 2: Machine Learning in Python
Lesson 3: Cleaning Machine Learning Data Sets
Lesson 4: Attention Classifier
Lesson 5: Comprehensive Classification

Impact and Ethics
Lesson 1: Introduction to Neuroethics
Lesson 2: Introduction to an Open Sourced World

(Pillars 3 and 4) Add in our included in-browser coding, PD options and Creative Challenge Capstone for a Full 4-Pillar solution.

Our solution comes with the ability to immediately access real world applications that combine BCI, machine learning, data science and Python.

We have extensive training and professional development options on our product, and how to fit it into your district's vision.

Our Neuromaker Creative Challenge (Capstone) is an annual, open design competition for Middle and High School students. This competition is open to students around the world in order to investigate the connections between Biomedical Engineering, Artificial Intelligence, Programming and more.

Students select a problem to investigate from a theme announced by the NeuroMaker judging committee. Students form teams, conduct research on this problem, build a prototype and then virtually submit their results in a