NEUROMAKER

BUILD.
CODE.
CREATE.
DISCOVER.

NEUROMAKERSTEM.COM | JOSHUA.VARELA@BRAINCO.TECH

Who We Are

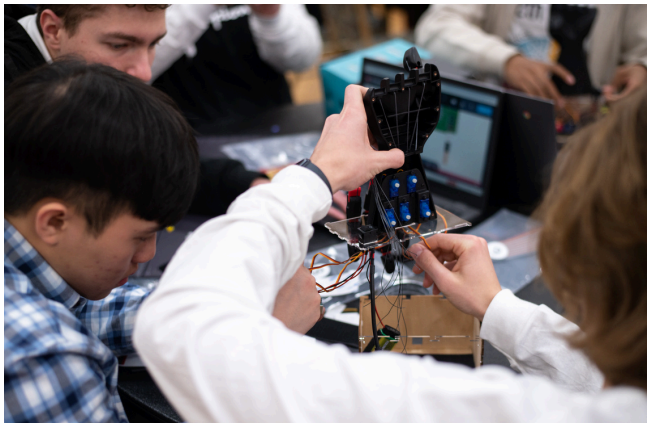
NeuroMaker works with schools, universities, and programs around the globe to provide students the opportunity to explore artificial intelligence, brain - computer interface technology, coding, biomedical engineering, neuroscience, engineering design, and many other practical and transferrable skills with industry-level technologies and minimal effort to implement.

DESIGN AWARD 2024

reddot winner 2024

Educators Pick
BEST OF STEM
WINNER 2022
Trailblazer:
Biotechnology Innovator

THE EDTECH AWARDS
COOL TOOL
FINALIST 2023



NeuroMaker is the education arm of the three divisions underneath the BrainCo umbrella. BrainCo is a brain-computer interface (BCI) company that explores how the brain interacts with the world. BrainRobotics, our prosthetics sister division, aims to bring a cost-effective myoelectric prosthetic to the limb-different community. FocusCalm, our mental and workplace wellness division, has made leaps and bounds in workplace wellness and athletic performance through working with professional and Olympic sports professionals in our mental conditioning platform. With NeuroMaker, we've taken all of those experiences and brought the best of them to the classroom. We have global reach with our products and have now been implemented in hundreds of school districts across the United States.

We pride ourselves on

- crafting unique interdisciplinary experiences through open-ended and inquiry-based learning.
- placing students in the shoes of modern industry professionals looking to solve social dilemmas to build empathy, content knowledge, and 21st Century Skills all at the same time.
- implementing a variety of cutting-edge technologies, including artificial intelligence and brain-computer interface technology, that students interact with to better understand the world in which they live and their own brains.

Sales: joshua.varela@brainco.tech
Support: support@neuromakerstem.com

Buy Online: neuromakerstem.store
BUILD. CODE. CREATE. DISCOVER.

NeuroMaker Hand 2.0

Build. Code. Create. Discover.

Need a hand with STEAM learning?

Get hands-on learning and create impactful STEM projects to solve real-world problems with this programmable prosthetic hand kit with industry-level BioSensors capturing brainwaves, muscle signals, hand motions, and beyond.

- Reusable and Customizable
- Plug-and-Play BioSensor Integration
- Block-Based Programming
- Arduino C SDK
- 100+ hrs of Curriculum Included
- 3rd Party Sensors and Microcontrollers

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*NeuroMaker Hand 2.0 with optional NeuroMaker BioSensor Kit shown.

Learn More

Using the NeuroMaker Hand

Learn More

Our programs are designed to foster both technical acumen and deep sense of social responsibility. Created by our actual prosthetic hand and knee engineers, these industry-derived education products and project-based curriculums immerse students in the real-world challenges faced by amputees and engage them in reimagining solutions. With their transferrable skills, students will foster a more inclusive and compassionate world.

Build

Modular design and packaging lets you build your NeuroMaker HAND from the ground up, offering an immersive hands-on experience with every component. Organized packaging enables easy disassembly, storage and reusability.

Code

Ideal for introductory programming courses, **block-based programming** allow you to visualize, design, and enhance your control programs effortlessly, even if you're a novice.

Also fully browser-based, our **Arduino C** library is designed to maximize the capabilities of the HAND, BioSensors, and compatible third-party accessories.

Create Real World Solutions

With BioSensors, students can explore endless combinations to reimagine, design, and engineer a more intuitive prosthesis that can truly transform amputees' life by addressing real-world challenges. Participate in a competition focused on making a meaningful impact on others' lives.

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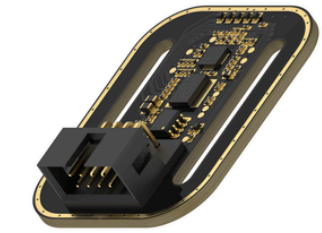
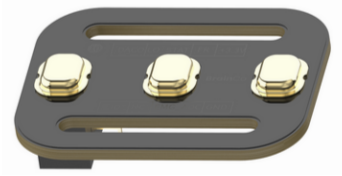
NEUROMAKER

NeuroMaker BioSensor Kit

AI-Powered BioSensors from Real Prosthetic Hands, Now Available for Students to Build, Code and Learn.

EMG Muscle Signal Sensor





When integrated into prosthetic hands, these sensors translate the user's muscular movements into signals that control the prosthetic's movements, allowing for more natural and intuitive hand functions, and achieve remarkable levels of dexterity and responsiveness.

We're bringing this technology from our real prosthesis straight into the classroom. Now, students have the unparalleled opportunity to engage with, code, and recreate using the exact industry-grade electrodes that make these life-changing prosthetics possible.

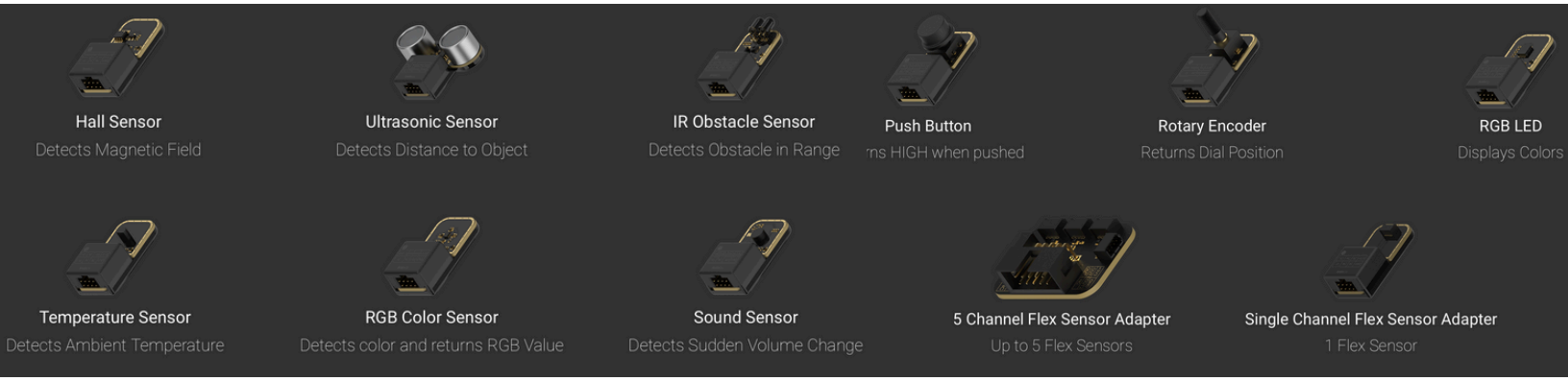
Learn More

Flex BioSensor

Flex sensors can be strategically attached to gloves or clothing to capture the intricate movements of fingers, wrists, elbows, and other joints. When a joint bends, the attached flex sensor bends as well, generating data that can be analyzed to understand the motion's characteristics.

This technology has widespread applications, from creating more interactive and responsive virtual reality environments to developing advanced prosthetics that mimic natural movements more accurately.

Other Sensors and Modules



NeuroMaker BCI

NEUROMAKER

NeuroMaker BCI is the most accessible Brain-Computer Interface hardware for education. It only needs Chrome browser on a laptop or Chromebook, and no login required. The hardware is designed for minimal maintenance.

Learn More

What is NeuroMaker BCI?

NeuroMaker BCI combines a comfortable cutting-edge, AI-powered EEG headband with activities and games that introduce students to neuroscience, machine learning, signal processing, as well as the ethical implications and impact of brain-computer interface. It can also be integrtated with most microcontrollers for coding.

What does the BCI Curriculum/ Activity Look Like?

- Visualize brainwaves, focus level, relaxation and learn fundamentals of neuroscience.
- Record, process and analyze EEG data.
- Play games controlled by brainwave.
- Connect and control the NeuroMaker Hand using brainwave.
- Control anything with it- integrate BCI into other microcontrollers and coding platforms!
- With NeuroRacing, control the race car using BCI.

The Curriculum

NeuroMaker BCI

	CTE Pathway Exposure	21st Century Skills
Module 1: Neuroscience Fundamentals **Students:** • acquire critical background knowledge surrounding EEG technology, brain waves, and how to use their NeuroMaker BCI device. • are introduced to neuroscientific concepts and skills.	• Biotechnology Research & Development • Engineering & Technology • Therapeutic Services	• self-direction • critical thinking • technology literacy skills
Module 2: Neurofeedback Exploration **Students:** • undergo a series of self-guided experiments to improve self-regulation. • discover how to relax and engage with neurotechnology. • introduced to experiment design and modern neurotechnology applications.	• Therapeutic Services • Biotechnology Research & Development • Engineering & Technology • Counseling & Mental Health Services	• communication • creativity • problem solving • perseverance • collaboration • self-direction • social responsibility
Module 3: Brain-Powered Device Control **Students:** • build a variety of devices and then control those devices using their BCI. • are introduced to C++ programming, serial communication protocols, and different forms of hardware.	• Programming & Software Development • Quality Assurance • Engineering & Technology	• critical thinking • communication • self-direction • collaboration • innovation • creativity • technology literacy skills
Module 4: Impact and Ethics of BCI **Students:** • use their NeuroMaker HAND to learn about physics, energy, and the human body. • are introduced to scientific hypothesis testing and are able to recognize the affect physical forces have on items.	• Engineering & Technology • Manufacturing Production Process Development • Production	• critical thinking • communication • problem-solving • collaboration • innovation • self-direction

NEUROMAKER

Curriculum and Projects

En ambos inglés y español!

100+ hours of interdisciplinary content spanning Biomedical Engineering, Programming, Brain-Computer Interface Technology, and more! With student-oriented projects, they can progress from setup and assembly to advanced projects and final competitions, learning together with interactive content and teacher support.

Scan here to view a complete gesture glove project in Spanish!

Sample project

Proyecto de muestra

Student Oriented Projects

More than 40 hours of interactive, hands-on project series designed to engage students in collaborative learning environments. Teams work together through a series of progressive stages—from assembly and coding to creative problem-solving and a final capstone design challenge. With minimal direct instruction, educators serve only as facilitators, while students explore, experiment, and evolve their ideas into tangible, helpful tools for those in need.

Comprehensive Lesson Plans

Our Comprehensive Lesson Plans are exhaustive lesson maps that include resources and teaching scaffolds designed to support all educators from interns to seasoned veteran STEM instructors.

One Page Lesson Plans

Our One Page Lesson Plans serve as helpful outlines of the critical features of the lesson while still delivering all of the foundational components that educators need to feel supported.

Assessment Menus

Deviating from the traditional exit ticket or evaluation, our Assessment Menus provide students with choice around how they can best demonstrate what they've learned. Students can choose to write, speak aloud, draw, and more!

Background Documents

Educator Background Documents remove a step of the preparation process for educators - time intensive research! We have articles that precede NeuroMaker lessons to ensure educators feel confident and prepared.

Student Lab Notes

Our lesson plans are anchored around student experience - as can be seen in our Student Lab Notes. Students use Lab Notes to brainstorm, design, and project plan independently and in groups to ensure they retain and incorporate knowledge.

Presentation Decks

To scaffold class discussion and help solidify NeuroMaker routines, Presentation Decks are chock full of information, discussion prompts, and project directions, that both help educators teach and students learn in a variety of modalities.

Curriculums Modules

En ambos inglés y español!

Module 1: NeuroMaker Hand Guided Assembly

Total 6 hours 30 minutes

Students discover the processes for assembling a real-life prototype while working in small groups. They are introduced to mechanical and electrical engineering concepts and skills while engaging in self-direction, information literacy, and demonstrating perseverance. This Module exposes students to a variety of Career Technical Education (CTE) Pathways, such as Manufacturing Production Process Development, and allows students to develop foundational skills and potential interest in career fields such as Manufacturing Engineering.

Module 2: Biotech and Biomedical Exploration

Total 10 hours 0 minutes

Students explore Biotechnology and Biomedical concepts while collaborating with others to brainstorm solutions to real world problems. They are introduced to neuroscientific, biomedical, and prosthetic design concepts and skills while engaging in problem solving and demonstrating creativity and social responsibility. This Module exposes students to Biotechnology Research and Development, and allows students to develop foundational skills and potential interest in career fields such as Bioengineering and Biomedical Engineering.

Module 3: Engineering Design

Total 10 hours 50 minutes

Students explore the engineering design process to discover the different phases of development while collaboratively engineering their own prosthetic hand prototype. Students learn introductory computer science concepts and engage in critical evaluation and innovation skills while demonstrating technology skills and digital literacy. This Module exposes students to Engineering and Technology, and allows students to develop foundational skills and potential interest in career fields such as Orthotics and Prosthetics.

Module 4: Life and Physical Sciences Exploration

Total 3 hours 0 minutes

Students use their completed NeuroMaker HAND to explore physics, energy, and the human body. They are introduced to critical scientific hypothesis testing and experience the affect physical forces have on objects while engaging in critical thinking and problem solving. This Module exposes students to a variety of Career Technical Education (CTE) Pathways, and allows students to develop foundational skills and potential interest in career fields such as Materials Science.

Module 5: Introduction to Programming

Total 12 hours 50 minutes

In Module 5: Introduction to Programming, students use block-based coding and/or text-based coding to connect and test the capability of their completed NeuroMaker Hand. They are introduced to foundational coding skills and computing logic, and a deep understanding of how programs interact with devices and improve the user experience with prosthetic technology.

Module 6: Applied Artificial Intelligence Exploration

Total 16 hours 0 minutes

Students explore and apply concepts of artificial intelligence through the lenses of global citizenship and privacy. They are introduced to Neuroethics and logical processes while discussing cutting-edge use cases and models within the emerging field of Applied Artificial Intelligence. This Module exposes students to a variety of Career Technical Education (CTE) Pathways, such as Information Support and Services, and allows students to develop foundational skills and potential interest in career fields such as Data Science.

Student-Oriented Projects

En ambos inglés y español!

More than 40 hours of interactive, hands-on project series designed to engage students in collaborative learning environments. Teams work together through a series of progressive stages—from assembly and coding to creative problem-solving and a final capstone design challenge. With minimal direct instruction, educators serve only as facilitators, while students explore, experiment, and evolve their ideas into tangible, helpful tools for those in need.

Scan here to view a complete gesture glove project in Spanish!

Sample project

Proyecto de muestra

Advanced Creative Projects

Total 10 hours

Available Sep2024

Complex, creative, and engaging self-guided projects that unleash the full potential of BioSensors and AI technology, enabling students to design, build and program the next-generation prosthetics, games, art, and more. Fully prepares students for the capstone competition.

Level 2 Capstone Competition

Total 12 hours

Available Oct 2024

In the Level 2 competition, students will tackle real-world challenges to improve the daily lives of those in need. In a simulated grocery store, participants will design and program a prosthetic hand using sensors and skills from earlier projects. The goal is to engineer an intuitive prosthetic that helps amputees navigate grocery shopping efficiently, truly transforming their quality of life.

Intro to Hand & Sensor Projects

Total 21 hours

Available Q4 2024

Discover the HAND and BioSensors from scratch through a series of fun, self-guided projects and activities. Instead of following a manual or relying on an instructor, students will learn everything—from assembly to programming—while creating innovative solutions and uncovering their boundless creativity to make a real-world impact.

Brain-Computer Interface Exploration

Total 20 hours

Available Mid 2025

Explore the exciting world of brain-computer interfaces (BCI) through hands-on projects. Students will dive into cutting-edge technology, visualize their brainwaves, and acquire brainwave data for analysis. They will create interactive experiences, and push the boundaries of what's possible in human-computer interaction.

Professional Development

e-learning Suite, Core, Live Support, Online Docs & FAQ

We believe in providing options to best meet each school's unique needs. To best achieve that end, we offer hundreds of hours of content on the e-learning platform, live support with our product engineer, easily accessible product documentations and FQA pages curated from years of educator feedback. Our goal is to provide PD that is easy, flexible, efficient, and engaging from beginning to end.

NeuroMaker e-learning Suite

3,000 USD/SEAT

NeuroMaker e-learning Suite is our comprehensive library of asynchronous course work. It covers a variety of topics including, but not limited to, product onboarding, cognitive development of the brain, and introduction to artificial intelligence. Receive a printable certificate of completion for each course mastered and share with your network to identify yourself as a NeuroMaker subject expert!

NeuroMaker e-learning Core

500 USD/SEAT

NeuroMaker e-learning Core is our compact, asynchronous offering and covers all of the essential product onboarding materials for those looking to get started on a budget. This valuable alternative to the e-learning Suite empowers educators with comprehensive guidance on hardware utilization, coding functions, and how to access and make the most of all available content and activities.

NeuroMaker Live Technical Support

FREE

Implementing new programs can often be a challenging task. In instances where a support query cannot be effectively resolved through support email, we prioritize a more personalized approach by arranging video or voice conferences, during which our dedicated team of developers and engineers directly engage to offer comprehensive assistance.

Online Docs, FAQ and Embedded Resources

FREE

In our curriculum portal, you'll find extensive product documentation, encompassing detailed instructions, informative videos, SDK, demo codes, and sample projects. Additionally, our FAQ section, enriched with years of feedback from educators, addresses the most common questions encountered during use.

NeuroRacing

FROM 5,000 USD

Unlock your brain's potential and control the speed of a car with your brain! NeuroRacing is the perfect addition to any STEM Makerspace room. NeuroMaker BCI's EEG headband **measures students' ability to focus** to determine the speed of their car going around the slot car track. Setting up is easy- you only need a Windows laptop and a TV/monitor.

Why NeuroRacing?

With NeuroRacing, students can not only custom build their track but also learn techniques to better focus in a fun and engaging way. NeuroRacing is an excellent way for the students to learn and compete during their time in the STEM Makerspace room to see who can increase (and maintain!) their focus and win the race.

What's included?

- 2 or 4 BCI Headbands
- NeuroRacing Control Box, Lap Counter and Accessories
- NeuroRacing Software
- A complete set of Carrera® Digital 132 2-lane or 4-lane track
- Wireless Router
- Instructions and Training Materials

Pricing

Work with our product professionals or place an order online at neuromakerstem.com

9K Start and Save Bundle

Ideal for around 15 students. We recommend 2:1 ratio for Hand and BCI

Product	List Price	Quantity	Total Price
NeuroMaker HAND 2.0	$550	8	$4,400
NeuroMaker BioSensor Kit	$500	4	$2,000
NeuroMaker BCI	$500	8	$4,000
NeuroMaker Repair Kit	$75	3	$225
NeuroMaker e-learning Suite (Lifetime Access)	$3,000	1	$3,000
Curriculum and Student Activities	Included	100+ hours	Included

If not tax exempt, sales tax will be calculated upon confirmation of your invoice. Shipping is not included.

Subtotal	**$13,625**
Discount	**$4,625**
Grand Total	**$9,000**

Pricing and Required Equipment

Product Type	Product Name	List Price	Required Equipment	Recommended Equipment
Hardware and Software	NeuroMaker HAND 2.0	$550	None	Chromebook/ Laptop with Chrome Browser
	NeuroMaker BioSensor Kit	$500	None	
	NeuroMaker BCI Headband	$500	Chromebook/ Laptop with Chrome Browser	
	NeuroMaker HAND- Maker Edition	$450	None	
	NeuroMaker Repair Kit	$75	NeuroMaker Hand- Maker Edition	
Professional Development	NeuroMaker e-learning Suite	$3,000/ Seat	Laptop	
	NeuroMaker e-learning Core	$500/ Seat		
Makerspace Setup	NeuroRacing- 2 lane	$5,000	Windows Laptop, Monitor/TV	
	NeuroRacing- 4 lane	$7,000		

Next Steps

NeuroMaker is committed to our current and future partners and values feedback from the educators and students that inspire what we do every day:

"It's [NeuroMaker Curriculum and Hardware] **all hands on**. That's what I love about it. It's hands on. **Students are able to see the results of their work** in the project. So it's not just theory. They read about it, they've learned the scientific facts, and then they do the project and then they **see the results of what they learn**."

-Kate Dehbashi
Hale Charter Academy Educator and NeuroMaker Partner since Fall 2021

1 Explore the Remarkable Projects Created by Students

This packet is all yours! We've included the most fundamental things we think you might need to get a sense of who we are and why NeuroMaker is right for you.

More information is available at **neuromakerstem.com,** where you'll find product details, images and videos, and **amazing projects submitted by our students.**

2 Connect with Us Today!

ALL SALES INQUIRIES:

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Vice President of Sales and Operations
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Technical or any other questions:

Product/ Sales Support
support@neuromakerstem.com

Get an instant quote:

Official Website
neuromakerstem.com

Buy directly online or upload your purchase order:

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neuromakerstem.store