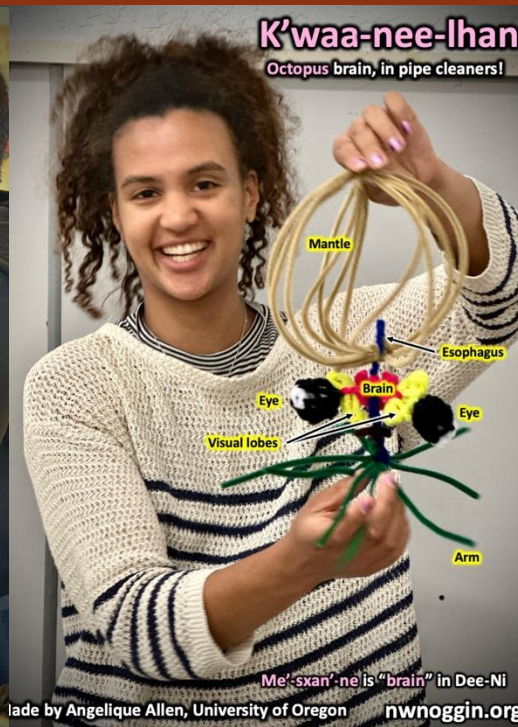


NORTHWEST NOGGIN



BRAINS LEARN WHAT BRAINS DO: AI AND THE BRAIN



ALL VOLUNTEER

ALL OF US. FOR FOURTEEN YEARS (SINCE 2012)!
NO ADMISSION - NO TUITION - OPEN TO EVERYONE
85,000+ PUBLIC K12 STUDENTS/COMMUNITY MEMBERS
LOCAL/NATIONAL/INTERNATIONAL COLLABORATORS



Northwest Noggin and the Interdisciplinary Neuroscience Association at SfN 2025



GO PLACES

- WHERE STEM PROGRAMS DON'T GO
- WHERE MONEY AND RESOURCES DON'T GO
- RURAL AND URBAN K-12 PUBLIC SCHOOLS
- HOUSELESS YOUTH NONPROFITS
- MUSEUMS, PUBS, COFFEE SHOPS
- CORRECTIONAL FACILITIES

Siletz, Amity & Willamina, OR
Pop: 4000

Davenport, WA
Pop: 1700

Astoria, OR
Pop: 10,000

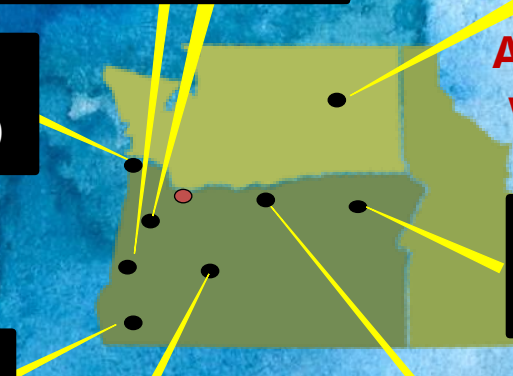
*A few places
we've been*

La Grande, OR
Pop: 13,000

Meservy
Meadows, OR
Pop: ~40

Sisters, OR
Pop: 3081

Heppner & Ione, OR
Pop: 1240



Youth get visual, hands-on experience with the brain

NW Noggin, a neuroscience outreach nonprofit, reached out to youth at MacLaren Youth Correctional Facility this week to teach about brain development.



Noggins on the Coast



WE GO PLACES!



PORTLAND AREA
 Portland Public Schools
 Vancouver Public Schools
 Beaverton Public Schools
 Evergreen Public Schools
 Hillsboro Public Schools
 David Douglas Public Schools
 Parkrose High School
 Reynolds High School
 Oregon City High School
 Tigard-Tualatin Public Schools
 Columbia City Elementary
 Pear Center for Homeless Youth
 Bio Gift
 SIN Chapter Mtg
 Portland Art Museum
 University Club
 PLACE Gallery
 Vancouver Symphony
 Science on Tap
 NOGGINFEST
 Paragon Gallery
 Bridge to Pathways, St. Helens
 Doug Fir
 Oregon Public Broadcasting (OPB)
 Portland Tennis & Education Center
 March for Science
 STEAM Nights
 Comic-Con
 AMWA (American Medical Women's Association)
 Providence Hospital BRAIN WATCH
 Intel
 Noggin Talks @ Velo Cult/Honey Latte/Floyd's Coffee
 OMSI Brain Fair
 PNCA Make + Think + Code
 OHSU Brain Institute
 Alzheimer's Association of Oregon
 Legacy Research Institute
 RACC Juice Awards
 ONPRC
 KGW News
 Helen Gordon Child Development Center
 Asian New Year in the Park
 Oregon Youth Neuroscience Conference
 Undergraduate Research Opportunity Fair
 University Center for Excellence in Developmental Disabilities

WILLAMETTE VALLEY
 Amity/Willamina High Schools
 Canby School District
 Eugene Public Schools
 OAEA Conference
 Oregon State University
 University of Oregon
 OPAHEC
 Maclaren Youth Correction Facility
 Coffee Creek Correctional Facility
 Oregon Psychiatric Physicians Association
 Oregon Senate testimony

OREGON COAST
 Astoria Public Schools
 Warrenton Public Schools
 Knappa Public Schools
 Jewell School
 Seaside Public Schools
 Lincoln County Schools
 Fort George Brewery
 Street 14 Coffee
 Siletz Valley Academy
 Kids Make Theater/Liberty Theater
 Girls Rock Coos Bay
 Salishan (TRIO)

CENTRAL/EASTERN OREGON
 Eastern Oregon University
 Sisters Public Schools
 Roundhouse Foundation
 Frontier county schools
 Heppner & Lone Public Schools
 NEOAHEC/La Grande
 Caldera Arts

SOUTHERN OREGON
 Indian Education Summer Camp
 Grants Pass Public Schools
 Southern Oregon University
 SW Oregon Economic Summit

INTERNATIONAL
 Universidad de Chile, Valparaíso Chile
 Ciencia al Tiro, Valparaíso Chile
 Gordon Museum of Pathology, Kings College London
 Sidmouth Science Festival, England
 British International School, Gaza
 Brain Olympics, the Netherlands

UNITED STATES
 SIN conferences (San Diego, Washington, New Orleans, Chicago)
 San Diego Unified Public Schools
 Washington DC Public Schools
 Chicago Public Schools
 Eastern Washington, Davenport Public Schools
 Society for Social Neuroscience conference, Chicago
 Sidwell Friends School
 NOGN (Neuroscience Outreach Group) @ NYU
 Dana Foundation
 Waikiki Elementary School, Hawaii
 White House Frontiers Conference (Pittsburgh)
 U.S. Congress
 White House Office of Science & Technology Policy
 Phillips Collection (DC)
 TRIO conference, Boise ID
 TRIO Conference, Bellevue WA
 Boise State University

MORE places we've been!!



LISTEN

-LIVED EXPERIENCES
-RELEVANT KNOWLEDGE
-SEEING OTHER PEOPLE



Heppner, OR



Knappa, OR

HOMELESSNESS & THE BRAIN

Portland, OR

Thurs, Oct 19th
10am - 1pm

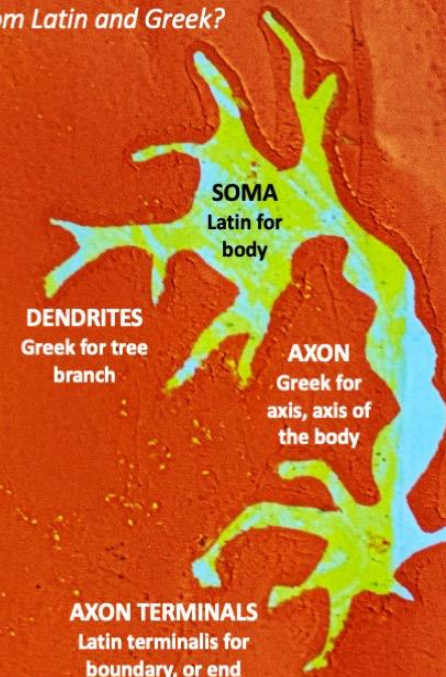
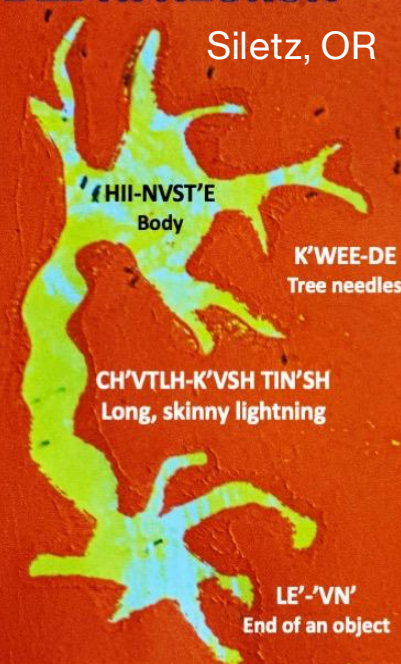


Noggins + NeuroChem in Gaza

DEE-NI NEURON

Siletz, OR

*Do neuroanatomical terms have
to derive from Latin and Greek?*



#showusyourbraincell

nwnoggin.org

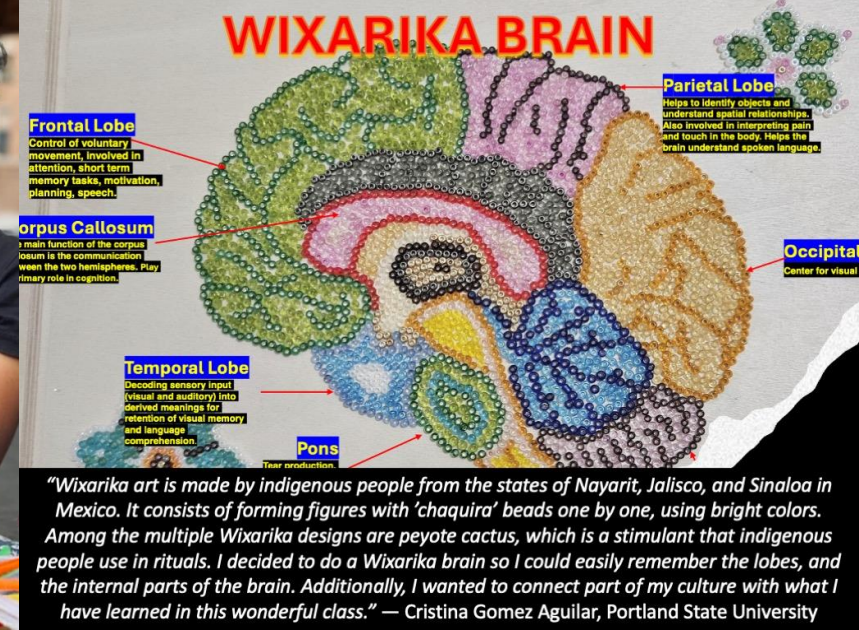
SHARE STORIES

- EMPOWER MORE VOICES
- BROADEN THE CONVERSATION (MORE “DATA!”)
- MAKE PUBLIC INVESTMENT IN RESEARCH RELEVANT
- INVITE NEW PARTICIPANTS, PERSPECTIVES & **BRAINS**



MAKE ART

- ENGAGEMENT
- PERSONAL RELEVANCE
- SELF-AWARENESS AND EMPATHY
- ADAPTATION AND PLASTICITY



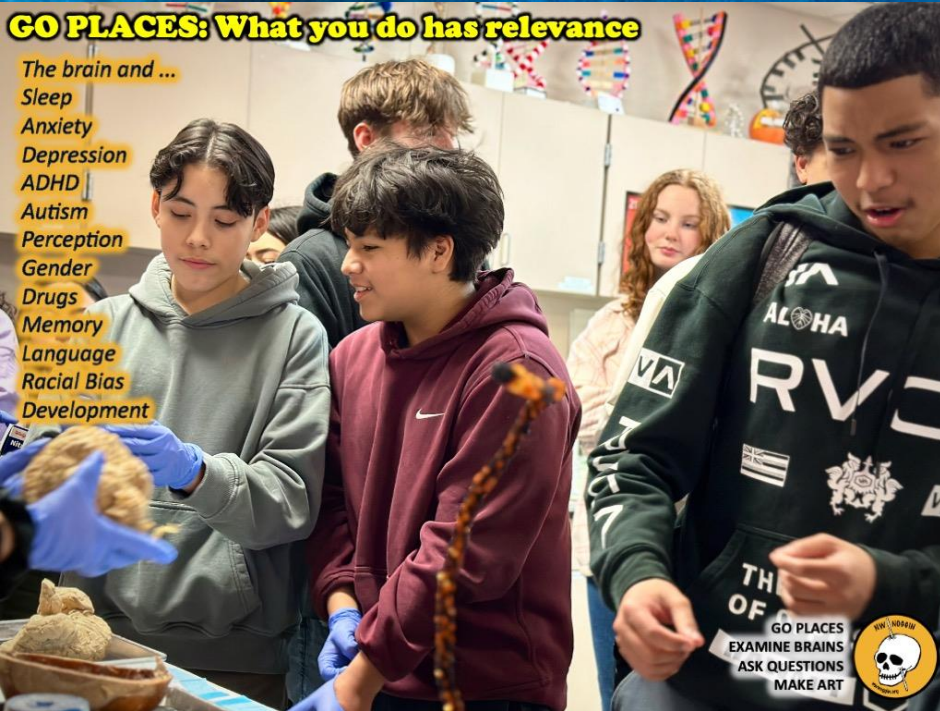


INFORM POLICY

- RESEARCH TOPICS ARE POPULAR!
- INTERDISCIPLINARY/STEAM APPROACHES WORK
- 1. SCHOOL START TIMES FOR ADOLESCENTS
- 2. PERMANENT STANDARD TIME
- 3. HOUSING FIRST

GO PLACES: What you do has relevance

The brain and ...
Sleep
Anxiety
Depression
ADHD
Autism
Perception
Gender
Drugs
Memory
Language
Racial Bias
Development



Teaching Matters ❤️

GO PLACES
EXAMINE BRAINS
ASK QUESTIONS
MAKE ART



WHAT IS AI?

ARTIFICIAL INTELLIGENCE (AI) USES ALGORITHMS TO SEEK PATTERNS IN *HUGE* AMOUNTS OF DATA, AND LEARN FROM THOSE PATTERNS TO MAKE PREDICTIONS.

LEARN MORE: *What is artificial intelligence (AI)?*
<https://www.ibm.com/think/topics/artificial-intelligence>

Machine Learning

Models that make predictions based on data

Neural Networks

A machine learning technique that models the organization of the brain to find patterns in data; Often supervised (inputs/outputs provided)

My Daily Discovery

Songs by new and familiar artists inspired by your listening. Updates every morning.

▶ Play

↻ Shuffle



Add



Download



Share



Kiss Me

Sixpence None The Richer

...



Torn

Natalie Imbruglia

...



Black Horse And The Cherry Tre...

KT Tunstall

...



Send Me on My Way

Rusted Root

...



Sunny Came Home

Shawn Colvin

...

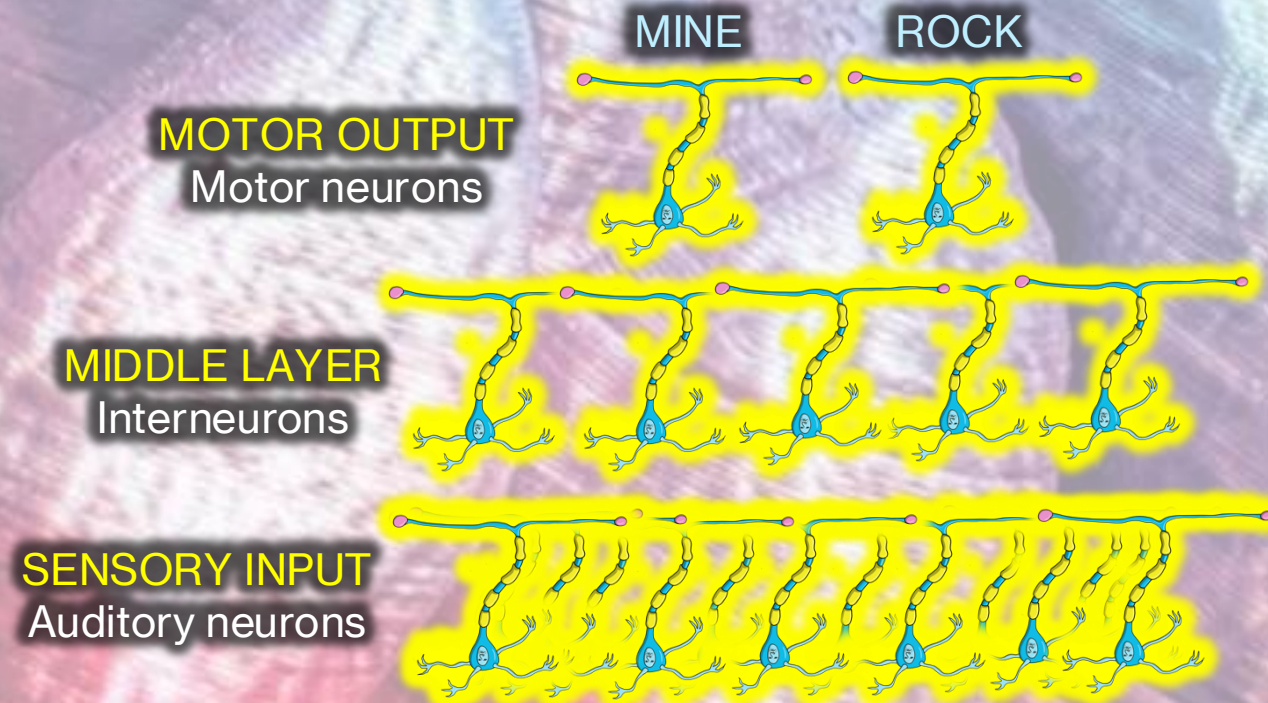
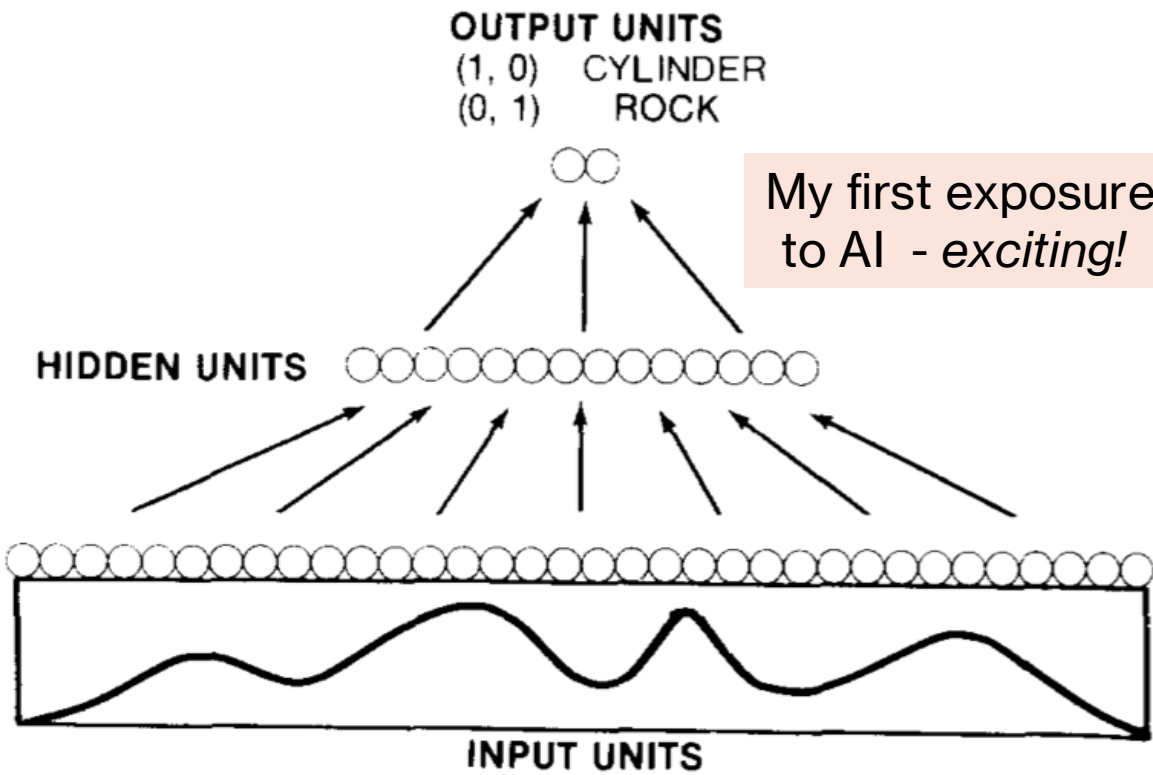
Deep Learning

More complex neural networks that find patterns; unsupervised

Generative AI (including LLMs)

Deep learning systems that create original content; unsupervised

“MINES” VS. ROCKS



“A neural network learning procedure has been applied to the classification of sonar returns from two undersea targets, a metal cylinder and a similarly shaped rock. Networks with an intermediate layer of hidden processing units achieved a classification accuracy as high as 100% on a training set of 104 returns...networks correctly classified up to 90.4% of...returns not contained in the training set....Network performance & classification strategy was comparable to that of trained human listeners.” - *Analysis of hidden units in a layered network trained to classify sonar targets (1998)*

A COOL NEW USE OF AI

Listening to macaques

👤 Bill Griesar 🕒 May 7, 2026 📁 Opportunities

GO PLACES
EXAMINE BRAINS
ASK QUESTIONS
MAKE ART



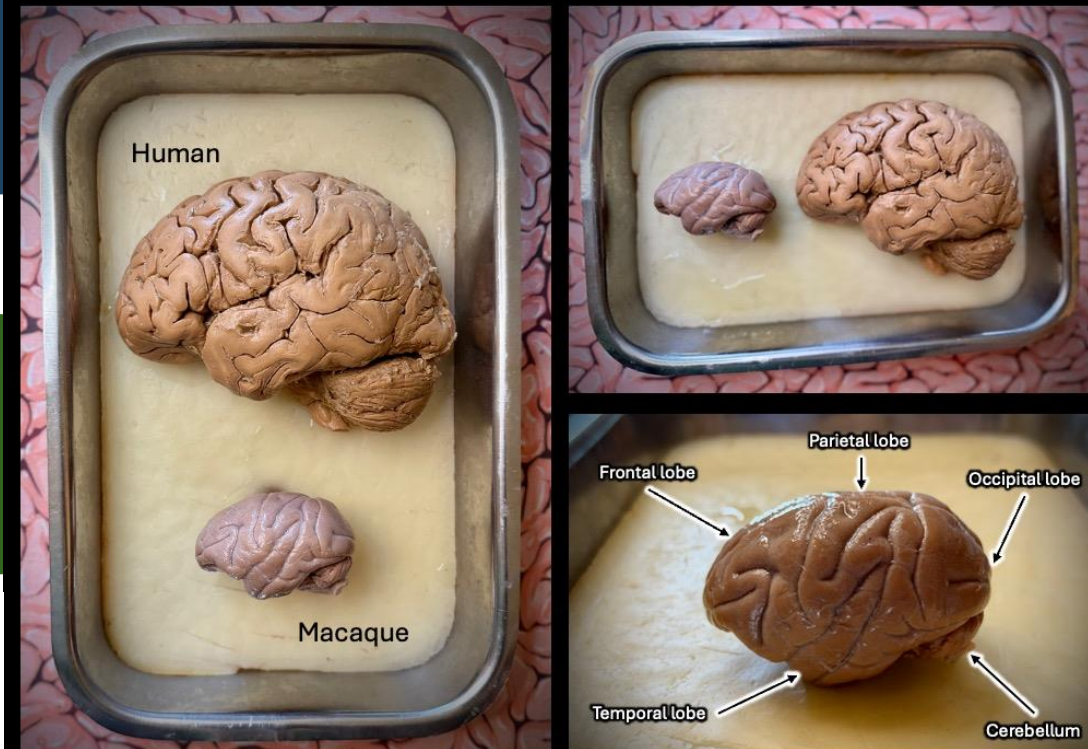
CHECK IT OUT HERE:
[HTTPS://NWNOGGIN.ORG/2026/05/07/LISTENING-TO-MACAQUES/](https://nwnoggin.org/2026/05/07/listening-to-macaques/)

Post by Josue L., an undergraduate in Computer Science and Interdisciplinary Neuroscience at Portland State University. Josue is a research intern at the Oregon National Primate Research Center where he studies animal vocalizations using computational methods.

Pattern Recognition (literally)

Once the audio has been transformed into spectrograms, we can start teaching the computer what to look for. This begins with *labeling* the data, where different segments of sound are identified as specific types of vocalizations.

Being able to apply computational methods to biological and neurological problems opens up new ways of understanding how the brain works and how communication is processed. For me, this goes beyond just building models or analyzing data, it's about using those tools to help bridge the gap between disciplines and contribute to something with real-world impact.



Macaque and Human brains

AI is ubiquitous, and people now use generative AI every day. Sometimes we use it intentionally (for example, we type a specific request into ChatGPT) though in many cases we use it *unintentionally* (e.g., we read an "AI summary" of a Google search). There are situations where AI technology can be helpful.

BUT...WHOSE DATA?

Underrepresented populations

Predictions based on available data; who is missing?

Lack of context

AI has no global understanding of the why;
trained brains still required to assess

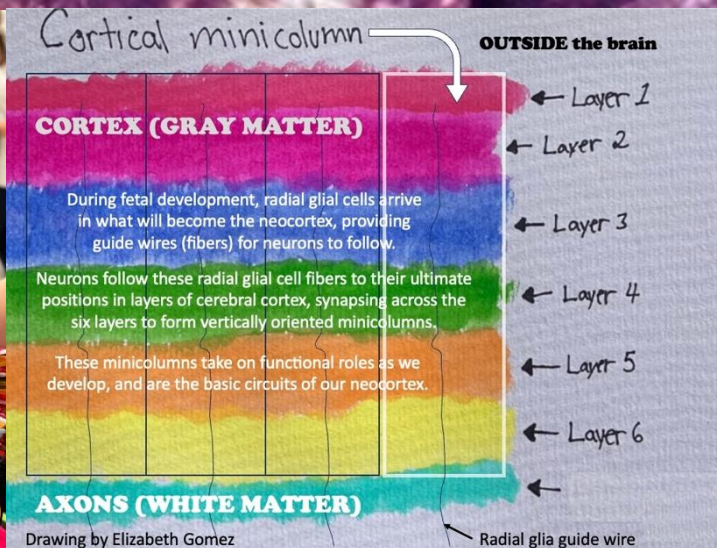
Hallucinations

AI makes shit up

EXAMPLE: "AI improves diagnostic sensitivity, prioritizes critical cases, and optimizes radiology workflows. Clinical uses span triage, image classification, report generation, and administrative task automation. **However, challenges persist, including ...lack of external validation, demographic bias, and inconsistent regulatory frameworks. Vision-language models expand AI capabilities but show reduced accuracy in under-represented populations and lack contextual clinical reasoning.**" - *AI in radiology (2026)*

OVERFITTING

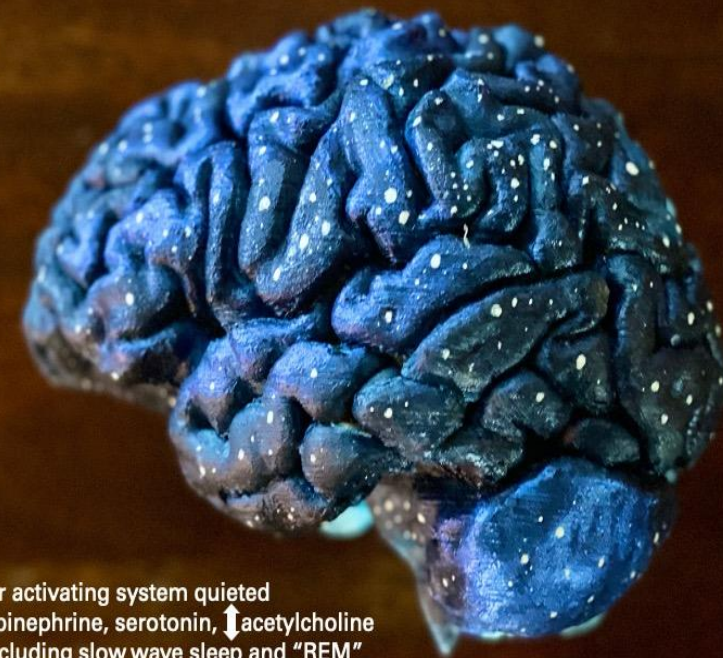
Teaching Matters ❤️



Sleeping Brain

Circadian Brain, by Kindra Crick

#showusyourbraincell
nwnoggin.org



Brainstem reticular activating system quieted
↓ Dopamine, norepinephrine, serotonin, ↑ acetylcholine
Multiple stages, including slow wave sleep and "REM"
Delta/theta activity recorded via EEG; beta/alpha (REM)
Cerebrospinal fluid enters brain, cleaning out debris

"...research on artificial neural networks has shown that during learning, such networks face a ubiquitous problem: that of overfitting to a particular dataset, which leads to failures in generalization and therefore performance on novel datasets. Notably, the techniques that researchers employ to rescue overfitted artificial neural networks generally involve sampling from an out-of-distribution or randomized dataset. The overfitted brain hypothesis is that the brains of organisms similarly face the challenge of fitting too well to their daily distribution of stimuli, causing overfitting and poor generalization. By hallucinating out-of-distribution sensory stimulation every night, the brain is able to rescue the generalizability of its perceptual and cognitive abilities and increase task performance...." – Erik Hoel, *The overfitted brain: Dreams evolved to assist generalization* (2021)

THE WRONG BET

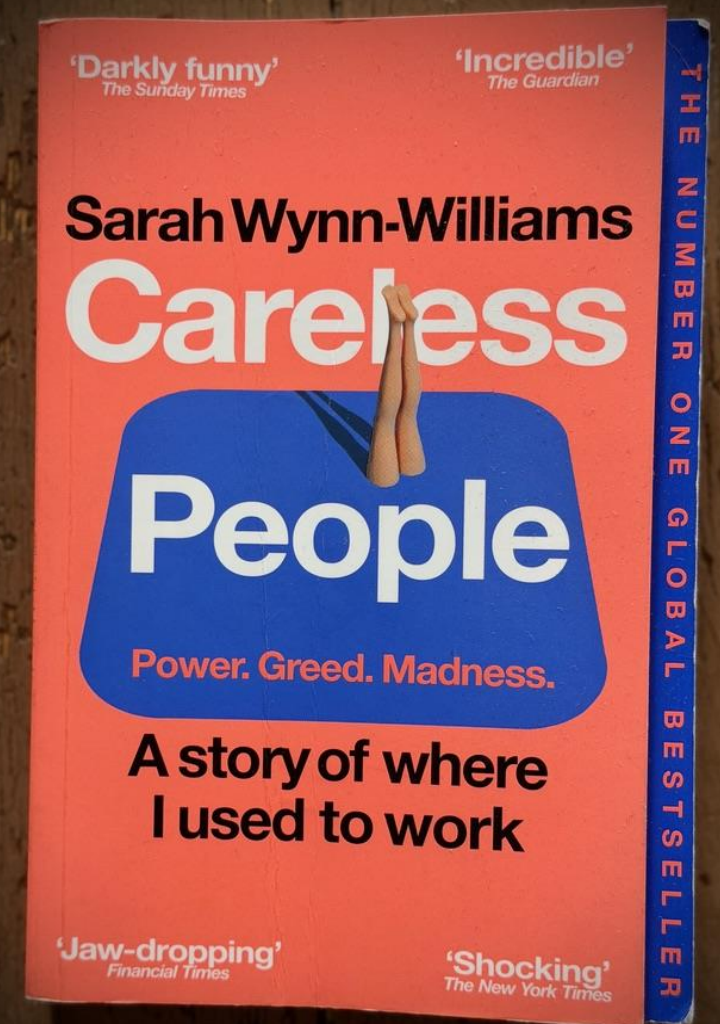
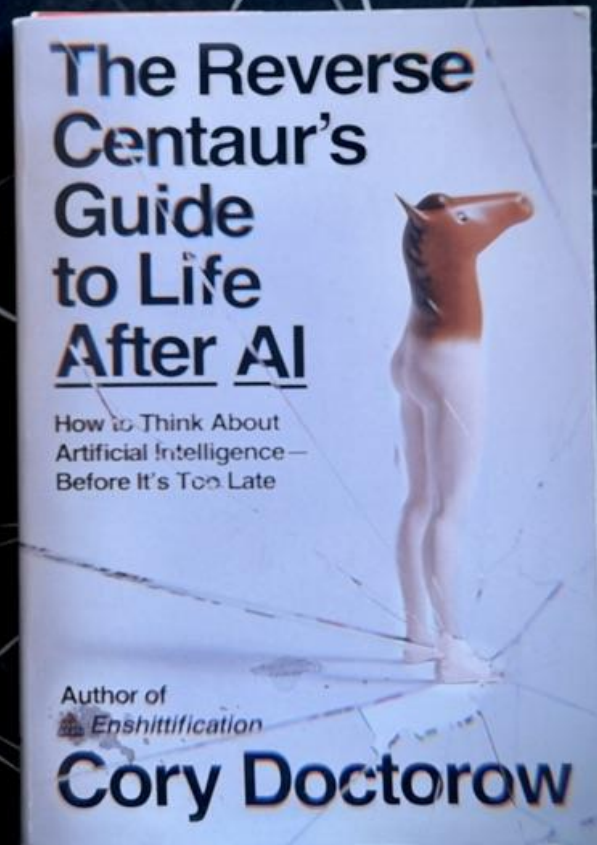
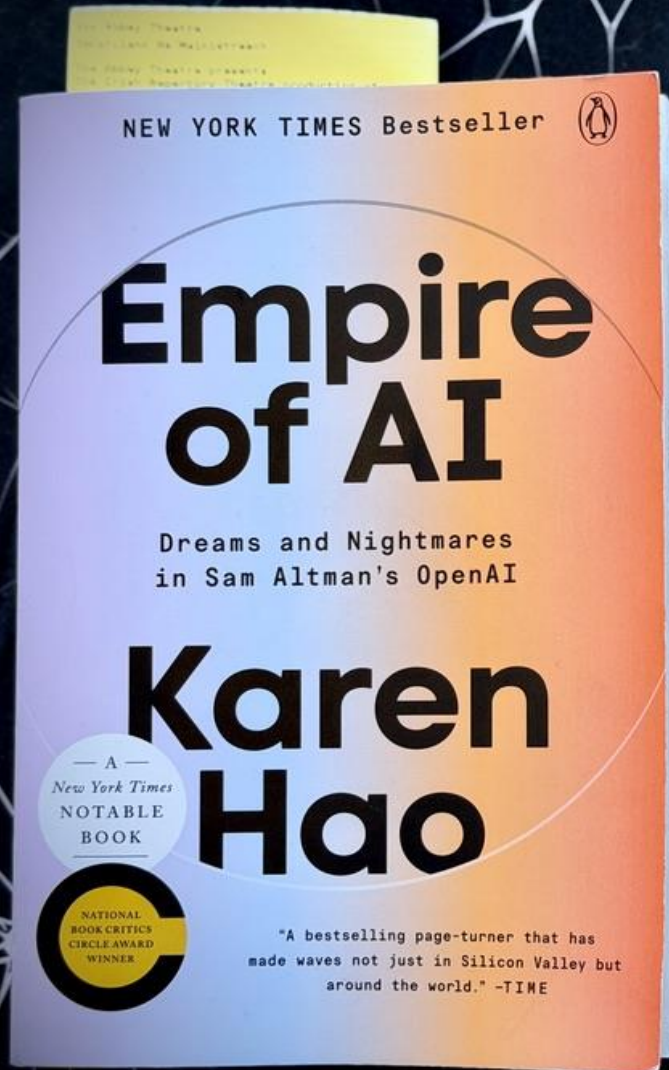


OPEN AI/MICROSOFT, GOOGLE, ANTHROPIC... DECIDED THAT WE JUST NEEDED MORE "COMPUTE" (I.E., MORE NETWORKS/MORE EXPENSIVE NVIDIA CHIPS) AND MORE DATA (OF QUESTIONABLE QUALITY, STOLEN FROM *EVERYWHERE*)

DOES A TERRIBLE JOB, BECAUSE OF "GARBAGE IN/GARBAGE OUT," AND LACK OF CONTEXTUAL NARRATIVE (WHAT BELONGS AND WHAT DOES NOT - ALSO *WHY?*). NOT JUST MORE NETWORK NODES – NEEDS EXPERIENCE-BASED EVALUATION.

AI COMPANY "SOLUTION": REINFORCEMENT LEARNING FROM HUMAN FEEDBACK (OR RLHF), A.K.A. PAY PEOPLE A PITTANCE, MOSTLY IN THE GLOBAL SOUTH, TO CORRECT/SUPERVISE INACCURATE AND OFTEN APPALLING AI OUTPUT!

HIGHLY RECOMMEND



AI IS A HALLUCINATING SUCK UP

Leading Generative AI companies like Microsoft have admitted that “these (Gen AI) systems are built to be persuasive, not truthful (...) This means that outputs can look very realistic but include statements that aren’t true” (Weise & Metz, 2023, cited in Barassi, 2025). This is known as **AI hallucination**. In addition, Gen AI is prone to confirm existing biases, engaging in what researchers call **algorithmic sycophancy**.



Green Star Quilt (Circuit boards, brass wire, copper tube), Wally Dion



AMERICAN PSYCHOLOGICAL ASSOCIATION

97%

of psychologists felt that chatbots may **inadvertently reinforce negative behaviors or delusional beliefs**

Add a thought...



APA 2026 CHATBOTS AND MENTAL HEALTH SURVEY

“A critical limitation of current LLMs is the generation of plausible but factually incorrect information, known as ‘hallucinations’. These errors are not accidental but statistical: many models are optimised to maximise response fluency, prioritising plausible ‘guesses’ over admitting uncertainty...”

- AI hallucination risks and mitigation strategies (2026)

BRAINS LEARN WHAT BRAINS DO



So if you use ChatGPT, for example, to write a paper, compose an email, or complete a project, your brain only learns how to format a query for ChatGPT.

SCALED DOWN CONNECTIVITY

"We assigned participants to three groups: LLM group, Search Engine group, and Brain-only group, where each participant used a designated tool (or no tool in the latter) to write an essay. We conducted 3 sessions with the same group assignment for each participant.

In the 4th session we asked LLM group participants to use no tools (LLM-to-Brain), and Brain-only group participants to use an LLM (Brain-to-LLM). We used EEG to record ' brain activity in order to assess cognitive engagement and cognitive load, and gain a deeper understanding of neural activations during the essay writing task.

Brain connectivity systematically scaled down with the amount of external support: the Brain-only group exhibited the strongest, widest-ranging networks, Search Engine group showed intermediate engagement, and LLM assistance elicited the weakest overall coupling."

"While LLMs offer immediate convenience, our findings highlight potential cognitive costs. Over four months, LLM users consistently underperformed at neural, linguistic, and behavioral levels..."

These results raise concerns about the long-term educational implications of LLM reliance and underscore the need for deeper inquiry into AI's role in learning..."

Your Brain on ChatGPT: Accumulation of Cognitive Debt when Using an AI Assistant for Essay Writing Task; Check MIT project's website: <https://www.brainonllm.com>



“NEGATIVE LEARNING EFFECTS”

"A key question is how generative AI affects learning – how humans acquire new skills as they perform tasks. Learning is critical to long-term productivity, especially since generative AI is fallible and users must check its outputs. We study this question via a field experiment where we provide a thousand high school math students with access to generative AI tutors.

To understand the differential impact of tool design on learning, we deploy two AI tutors: one that mimics a standard ChatGPT interface (“GPT Base”) and one with prompts designed to safeguard learning (“GPT Tutor”)...our results show that having GPT-4 access while solving problems significantly improves performance (48% improvement for GPT Base and 127% for GPT Tutor).

However, we additionally find that when access is subsequently taken away, students actually perform worse than those who never had access (17% reduction in grades for GPT Base) – i.e., unfettered access to GPT-4 can harm educational outcomes. These negative learning effects are largely mitigated by the safeguards in GPT Tutor. Without guardrails, students attempt to use GPT-4 as a “crutch” during practice problem sessions, and subsequently perform worse on their own. Thus, decision-makers must be cautious about design choices underlying generative AI deployments to preserve skill learning and long-term productivity..”

- *Generative AI Without Guardrails Can Harm Learning (2025)*

SKILL LOSS CONCERNS

AMA NEWS WIRE



More than 80% of physicians use AI professionally: AMA survey

Mar 12, 2026

The vast majority of physicians surveyed by the AMA say they are using augmented intelligence (AI) tools to stay on top of medical research, create discharge instructions, document medical visits and more. The 81% use rate is more than double what it was when the AMA first polled doctors on health AI in 2023, showing how physicians' comfort with this technology has grown rapidly as the tools have become more sophisticated.



Meanwhile, 88% of doctors reported having at least some concern about health AI-related skill loss, with 70% saying they are “very” or “somewhat” concerned about the loss of physician skills among the medical students and residents being trained today.

SOURCE: More than 80% of physicians use AI professionally: AMA survey

LESS CAPABLE BRAINS



IMAGE: <https://www.pixar.com/wall-e>

"...we observed an important effect of GPS use over time, whereby greater GPS use since initial testing was associated with a steeper decline in hippocampal-dependent spatial memory..."
- *Habitual use of GPS negatively impacts spatial memory during self-guided navigation*

GPS is not technically AI,
but again: **Brains learn
what brains do...**

"Our observation supports the assumption that externalization of spatial navigation to technological device (GPS in AR glasses) can decrease the functional coupling between hippocampus and associated brain regions..." - *Could Prolonged Usage of GPS Navigation Implemented in Augmented Reality Smart Glasses Affect Hippocampal Functional Connectivity?*

ENVIRONMENTAL DEGRADATION

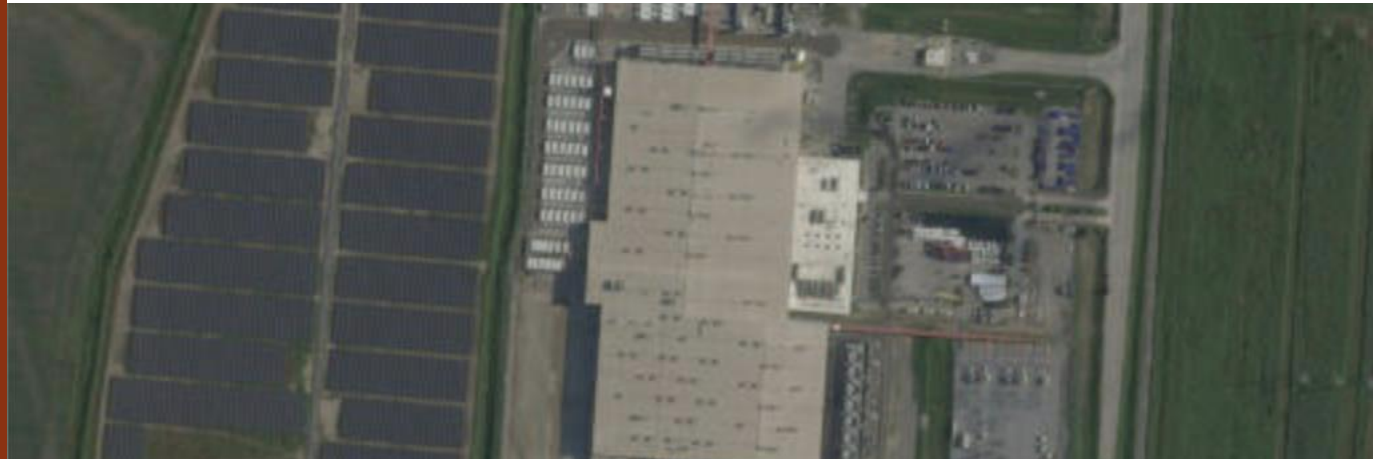
"... When tech giants build massive AI data centers, where do they choose to put them? This study reveals a disturbing pattern: companies consistently dump pollution on Black and Brown neighborhoods while building cleaner facilities in white communities. We call this 'digital redlining' - a modern twist on the racist housing policies that segregated American cities decades ago...."

- *Digital redlining: AI Infrastructure and Environmental Racism in Contemporary America (2025)*

"... results reveal that AI activities, especially in high-intensity regimes, are significantly associated with increased CO2 emissions and environmental degradation..." - *The Two Tales of AI: A Global assessment of the environmental impacts of artificial intelligence (2025)*

Memphis AI data center fuels pollution fight in Black neighborhood

<https://www.msn.com/en-gb/money/general/memphis-ai-data-center-fuels-pollution-fight-in-black-neighborhood/ar-AA29OrVW>



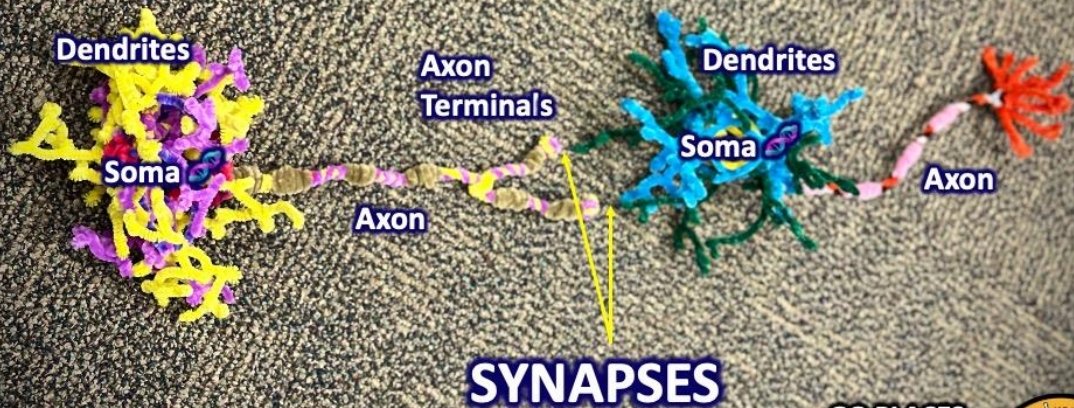
"The stench of rotten eggs and burning debris fills the air in Boxtown, a predominantly Black neighborhood in Memphis. Just a few miles away, a power plant fuels one of SpaceXAI's data centers, which are popping up all over Tennessee..."

YOUR BRAIN IS UNIQUE

WE BEGIN WITH ~125 – 150 BILLION NEURONS
END UP WITH 86 BILLION IN THE AVERAGE ADULT!
FORMATION OF NETWORKS, BASED ON EXPERIENCE

Neurons Connect

YOU ARE NEURAL NETWORKS



100 TRILLION synapses!

GO PLACES
EXAMINE BRAINS
ASK QUESTIONS
MAKE ART



Perceptions, Memories,
Expectations, Habits,
Biases, Schema,
Jumping to conclusions

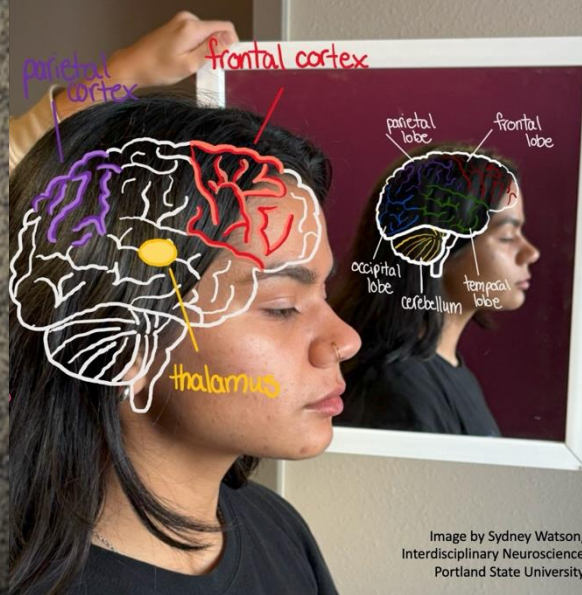
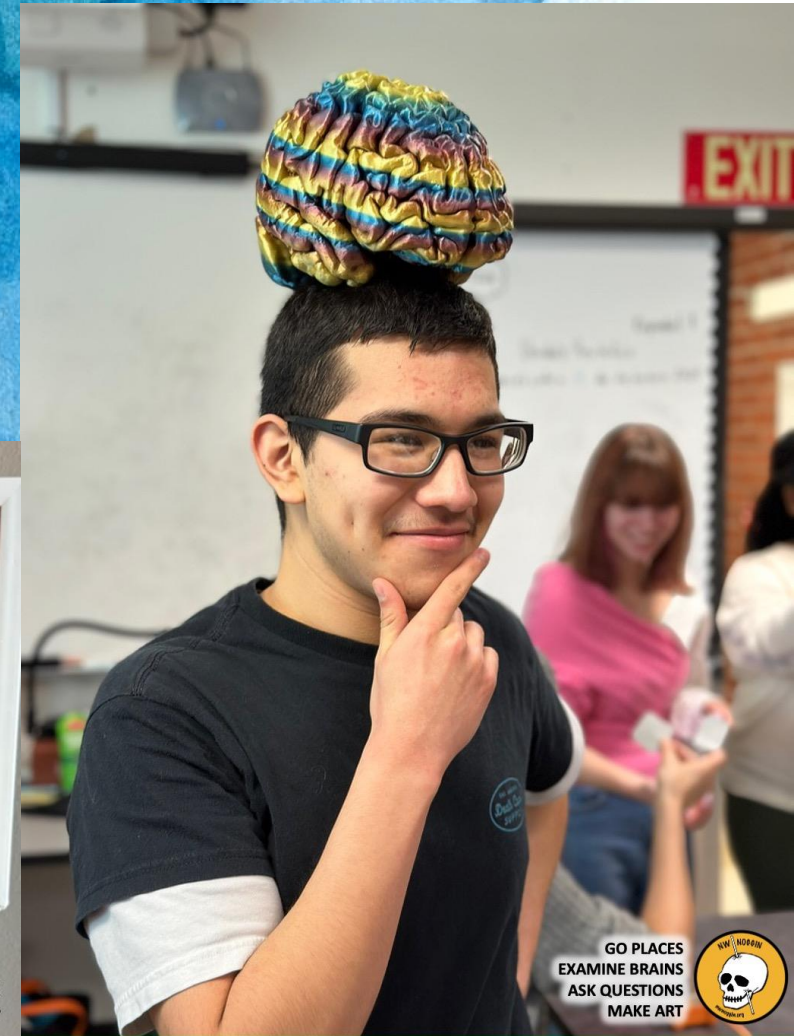


Image by Sydney Watson,
Interdisciplinary Neuroscience
Portland State University



GO PLACES
EXAMINE BRAINS
ASK QUESTIONS
MAKE ART



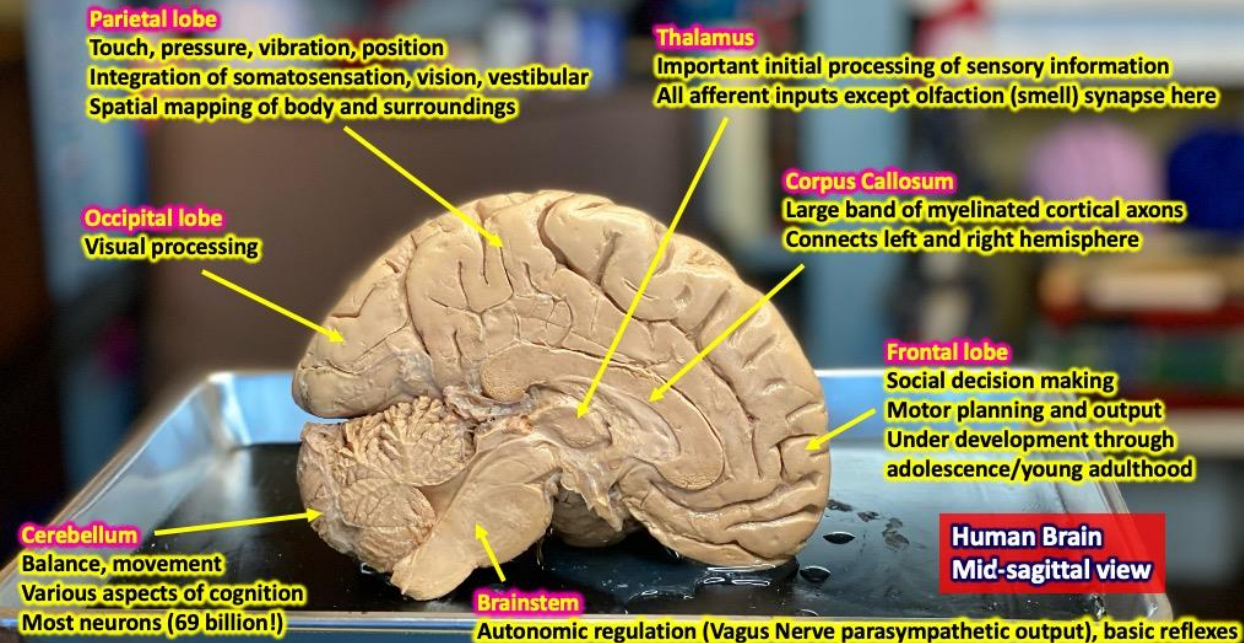
BRAINS DEVELOP

*How are you perceived?
What experiences shape you?
What opportunities do you have?
What are the social rules for you?*

**ADULT BRAINS BECOME MORE FIXED: NETWORK IN HABITS AND BIASES
YOUNG BRAINS ARE MORE PLASTIC, CHANGEABLE, AND RESPOND TO NOW**

nwnoggin.org
#neuroscience #art
#teaching #outreach

And the world always changes
We need brains that are changing TODAY



GO PLACES
EXAMINE BRAINS
ASK QUESTIONS
MAKE ART

LEARN MORE @ nwnoggin.org



GO PLACES
EXAMINE BRAINS
ASK QUESTIONS
MAKE ART

ENRICHMENT MATTERS

MARIAN DIAMOND RESEARCH

More enrichment, more pathways, more possibility,...



AVOID OVERFITTING
Less standardized testing
Fewer textbooks, more art



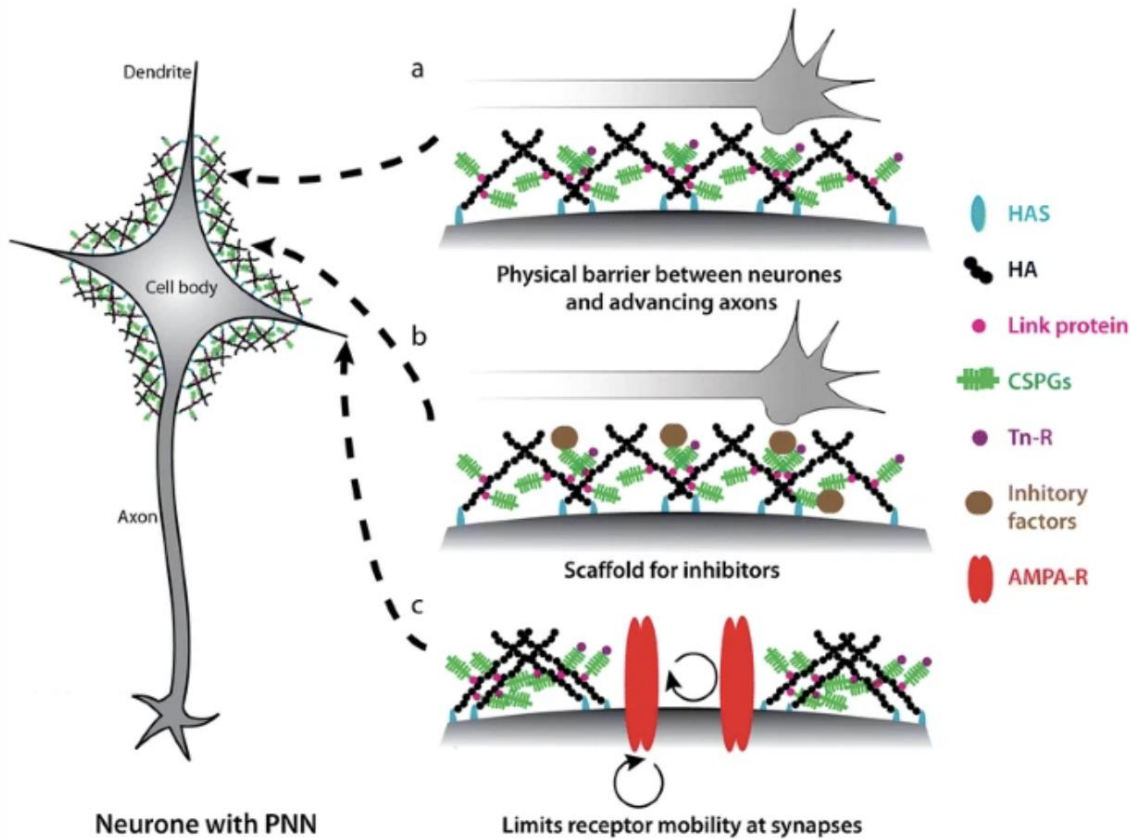
Grants Pass

if the human
brain is so
'complex' and
'smart' why
are some people
so s+upid?

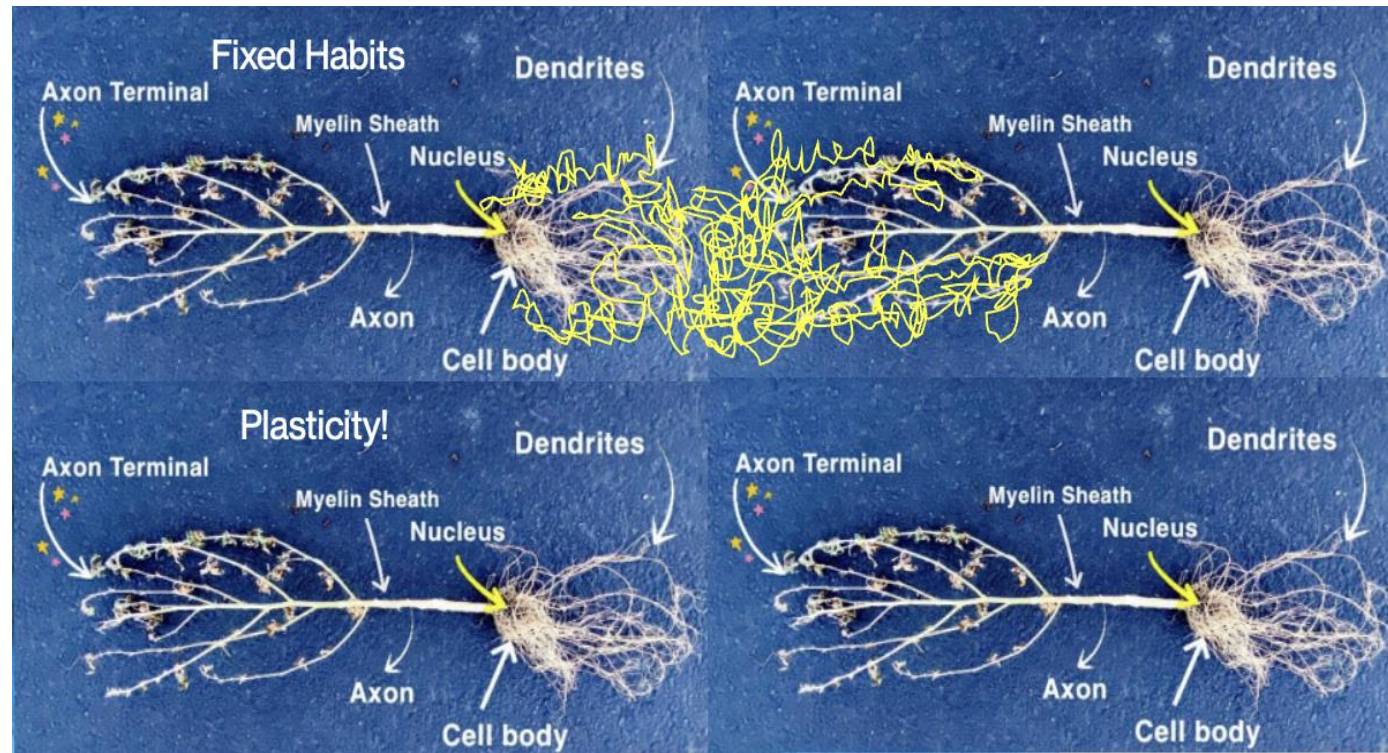


PLASTICITY IS POSSIBLE

BRAINS (INCLUDING ADULT BRAINS) CAN ADAPT!
FIXED NETWORKS REQUIRE LESS ENERGY TO MAINTAIN AS IS
PLASTICITY (CHANGE) TAKES ENERGY, EFFORT AND GROWTH



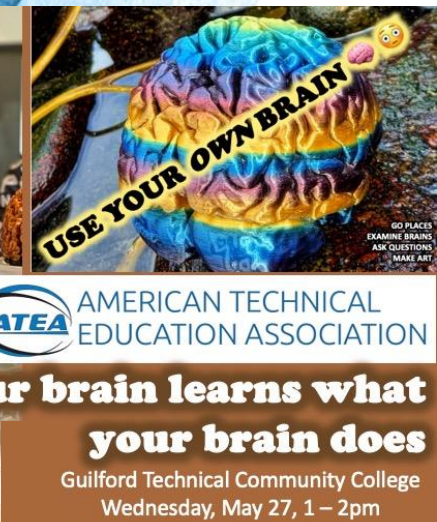
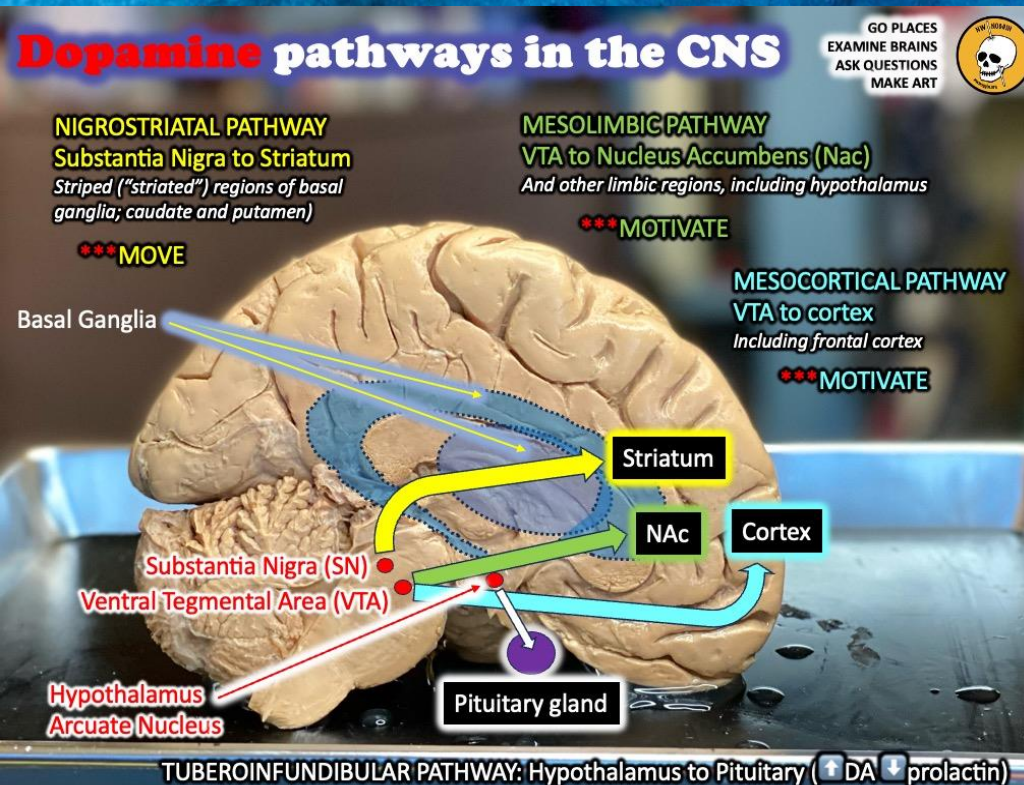
The perineuronal net and the control of CNS plasticity,
Difei Wang & James Fawcett, Cell & Tissue Research (2012)



MOTIVATION MATTERS

SOMETHING RELEVANT/NOVEL INCREASES AROUSAL AND ATTENTION
DOPAMINE RELEASED, PLASTICITY RESTORED, LEARNING OCCURS

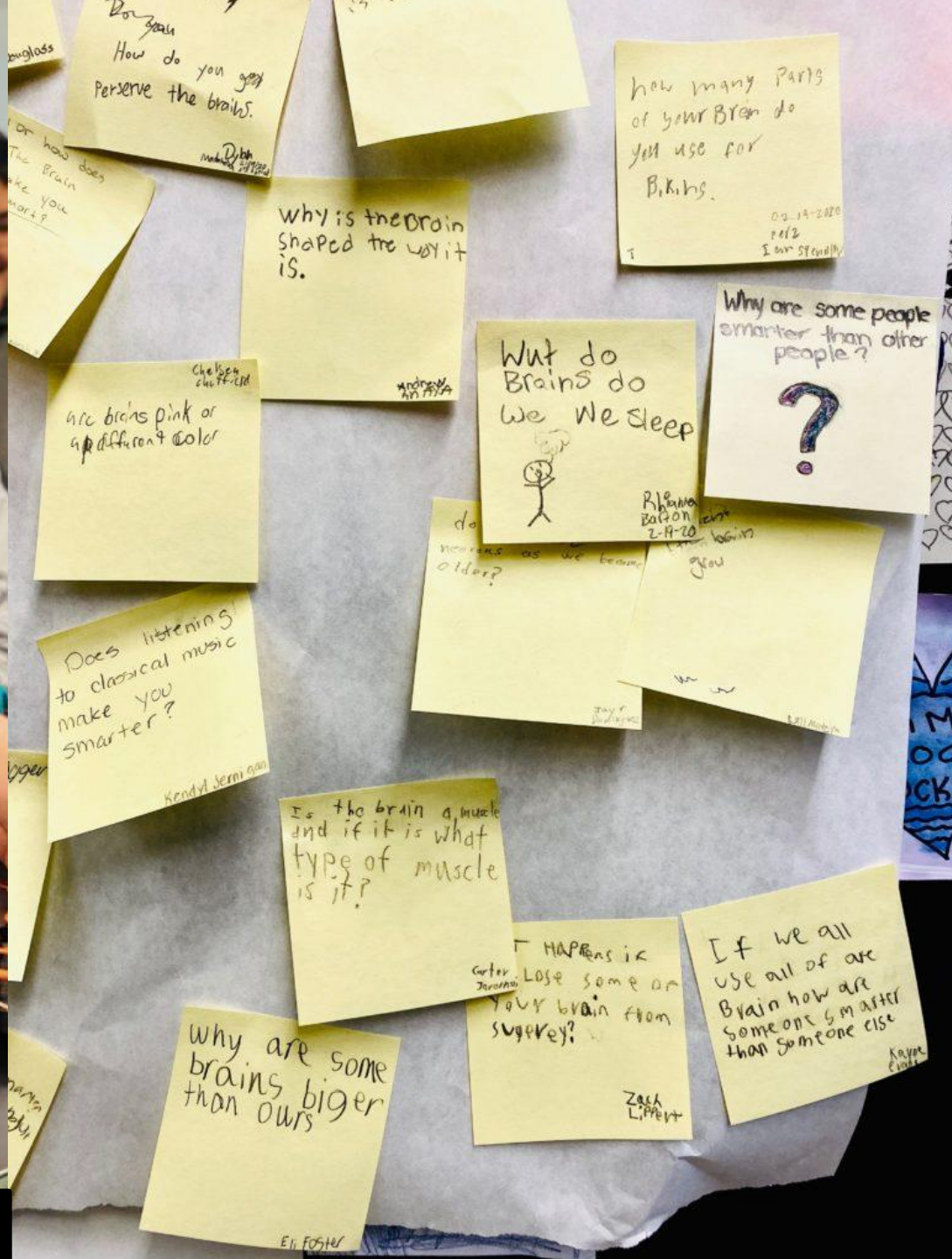
“Although we speculate there is a wide range of factors, one such biological factor that may...trigger PNN plasticity is dopamine.” - *Net gain and loss: influence of natural rewards and drugs of abuse on perineuronal nets* (2022)



MOTIVATION MATTERS



Grants Pass



How do you
Preserve the brain?

how many Parts
of your Brain do
you use for
Biking.

why is the brain
shaped the way it
is.

are brains pink or
a different color

What do
Brains do
We We Sleep

Why are some people
smarter than other
people?

Does listening
to classical music
make you
smarter?

Is the brain a muscle
and if it is what
type of muscle
is it?

What happens if
you lose some of
your brain from
surgery?

If we all
use all of our
Brain how are
some people smarter
than some people else

why are some
brains bigger
than ours

"The youth had an AMAZING time on Friday. They were beaming when we left and told me that's the most fun they have had in a really long time. Thank you so much for providing such a rewarding outlet for them! 🌟" – Project Pooch



MacLaren Youth Correctional Facility

**GO PLACES
EXAMINE BRAINS
ASK QUESTIONS
MAKE ART**



Portland, OR



Astoria, OR

Federal and State Governments Took the Brains Out of Biology!

WHERE ARE THE BRAINS IN K-12 PUBLIC CLASSROOMS? KIDS BENEFIT FROM AND WANT TO LEARN MORE ABOUT NEUROSCIENCE

Fourth Grade

- 4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.** [Clarification Statement: Examples of structures could include thorns, stems, roots, colored petals, heart, stomach, lung, brain, and skin.] [Assessment Boundary: Assessment is limited to macroscopic structures within plant and animal systems.]
- 4-LS1-2. Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.** [Clarification Statement: Emphasis is on systems of information transfer.] [Assessment Boundary: Assessment does not include the mechanisms by which the brain stores and recalls information or the mechanisms of how sensory receptors function.]

We need better standards:
Brains only mentioned in 4th grade!



JENSEN HUANG: “I would advise that every college student, every teacher should encourage their students to go use AI. Every college student should graduate and be an expert in AI.”



 **DiscussingFirastopher**
@firastopher

CEO OF OREO: “I would advise that everyone eat 50 Oreos a day. Maybe even 100.”

USE YOUR OWN BRAIN

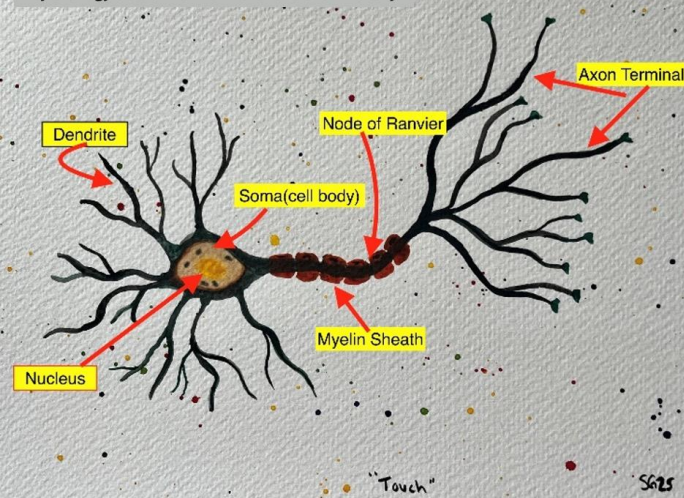
If you're motivated, intrigued, curious, engaged, your brain is more plastic.

CHANGE YOUR ENVIRONMENT: GO PLACES (W/O GPS!)
WELCOME NEW BRAINS, FROM MORE BACKGROUNDS
LISTEN TO WHAT YOUNG PEOPLE HAVE TO SAY
PROVIDE RESOURCES AND ENRICHMENT
PROMOTE ADULT PLASTICITY

MAKE ART

AVOID GENERATIVE AI

Watercolor neuron painted by Sheila Grayson,
Psychology student at Portland State University



NW NOGGIN

GO PLACES
EXAMINE BRAINS
ASK QUESTIONS
MAKE ART





“ ”

Don't let AI write anything for you. Write that email from scratch. Write that memo from scratch. Don't flee that strain. You need it as much as you need those 10,000 steps a day.

— **Cal Newport**, Georgetown computer science professor and bestselling author of *Deep Work*.

THE CHRONICLE
OF HIGHER EDUCATION

Is AI Making Us Stupid? Cal Newport Is Worried.

The Georgetown computer scientist on resisting the temptation to automate hard thought.

For a Student Who Used AI to Write a Paper *Joseph Fasano*

Now I let it fall back
in the grasses.
I hear you. I know
this life is hard now.
I know your days are precious
on this earth.
But what are you trying
to be free of?
The living? The miraculous
task of it?
Love is for the ones who love the work.

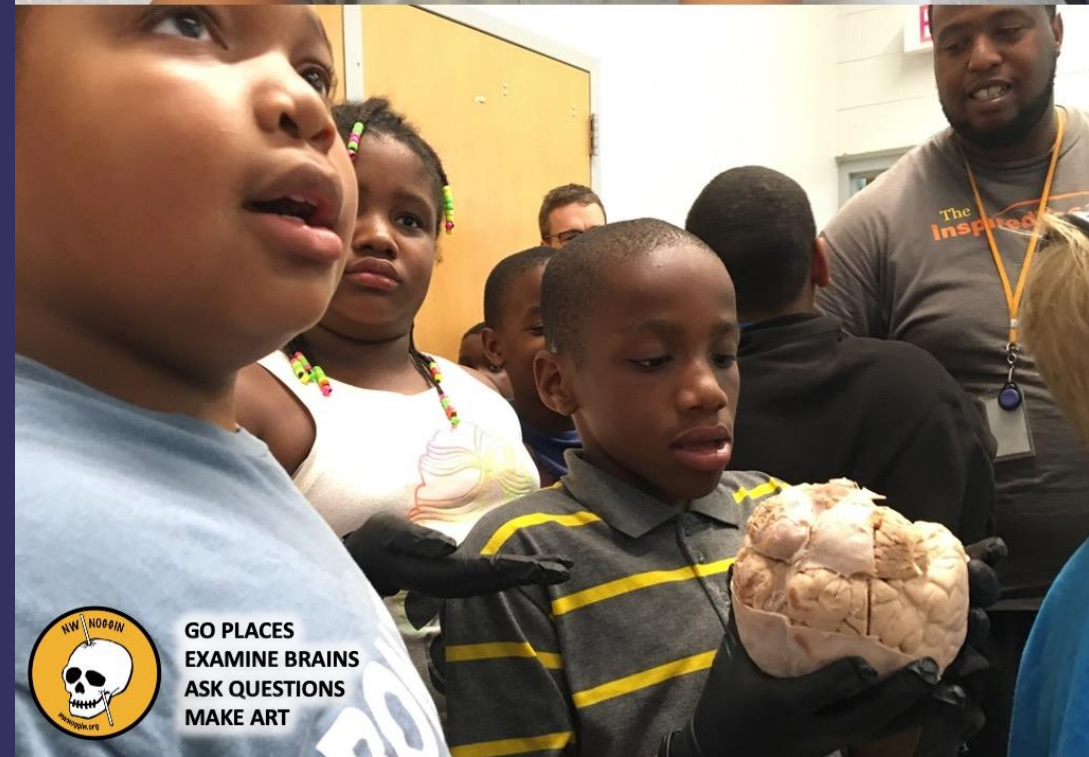
INVEST IN THESE “DATA CENTERS” 😊 Libraries, community colleges, students, teachers, **BRAINS** 🧠



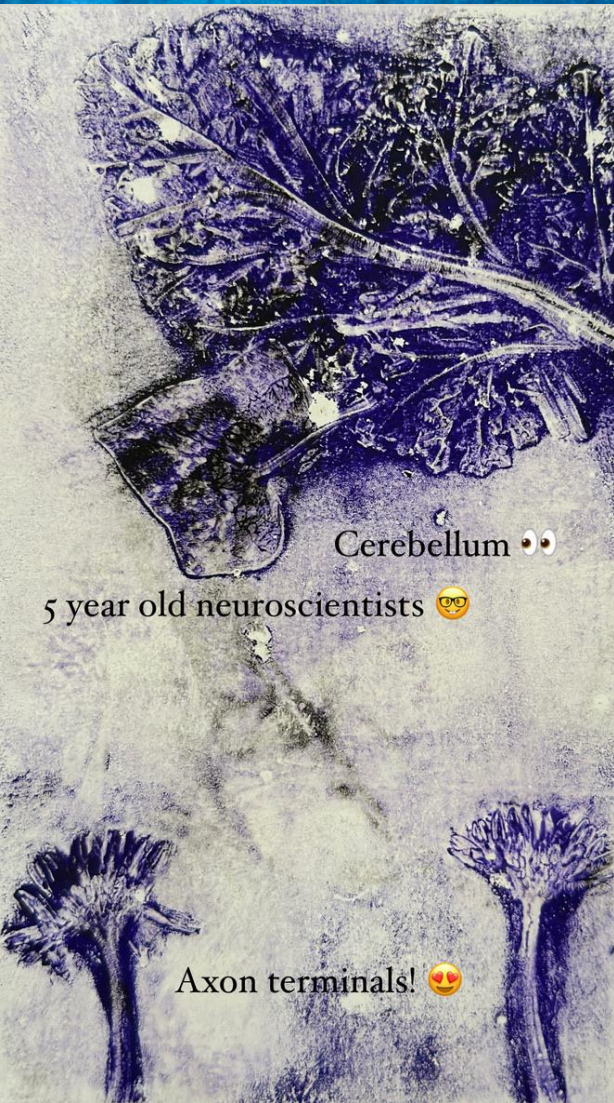
*“It also takes a lot of energy to train a human...
It takes, like, 20 years of life and all of the food you eat
during that time before you get smart.”*
–Sam Altman, Open AI 🤔🤔🤔



Future neuroscientists 🎨🧠❤️🧐



LET'S MAKE SOMETHING!



Cerebellum 🧠

5 year old neuroscientists 🧐

Axon terminals! 🧐

