

# Daily Briefing - October 17, 2025

Your Daily Tech & Programming Digest

Friday, October 17, 2025

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ARTICLES WORDS MIN READ SOURCES

Today's Top Stories

MR-guided graph learning of <sup>18</sup>F-florbetapir PET enables accurate and interpretable Alzheimer's disease staging





NEUROIMAGE

**Summary:** Publication date: 1 November 2025<b>Source:</b> NeuroImage, Volume 321Author(s): Xinyi Chen, Lijuan Chen, Weiheng Yao, Qiankun Zuo, Ye Li, Dong Liang, Shuqiang Wang, Meiyun Wang, Tao Sun



https://www.sciencedirect.com/science/article/pii/S1053811925005130?dgcid=rss sd all

# Scale-dependent brain age with cosmological higher-order statistics from structural magnetic resonance imaging

1 21 NEUROIMAGE words

**Summary:** Publication date: 1 November 2025<b>Source:</b> NeuroImage, Volume 321Author(s): Aurelio Carnero Rosell, Niels Janssen, Antonella Maselli, Ernesto Pereda, Marc Huertas-Company, Francisco-Shu Kitaura

https://www.sciencedirect.com/science/article/pii/S1053811925005038?dgcid=rss\_sd\_all

# Astrocytic Ca<sup>2+</sup> prevents synaptic depotentiation by limiting repetitive activity in dendrites during motor learning



**Summary:** Nature Neuroscience, Published online: 13 October 2025; <a href="https://www.nature.com/articles/s41593-025-02072-4">doi:10.1038/s41593-025-02072-4</a>
PLai et al. show a function of astrocytic Ca2+ in preventing synaptic depotentiation by reducing repetitive dendritic activity in the motor cor...

https://www.nature.com/articles/s41593-025-02072-4

#### Medicine on the menu: When illness informs appetite

Ji Heon HanWilliam W. JaaDepartment of Neuroscience, The Herbert Wertheim UF Scripps Institute

• for Biomedical Innovation & Technology, Jupiter, FL 33458bProgram in Integrative Biology and Neuroscience, Department of Biological Sciences, Florida Atlantic University, Jupiter, FL 33458



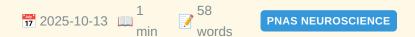
**Summary:** Proceedings of the National Academy of Sciences, Volume 122, Issue 42, October 2025. <br/> <br/> />

https://www.pnas.org/doi/abs/10.1073/pnas.2524005122?af=R

# Sex differences in healthy brain aging are unlikely to explain higher Alzheimer's disease prevalence in women

Anne RavndalAnders M. FjellDidac Vidal-PiñeiroØystein SørensenEmilie S. FalchJulia KropiunigPablo

F. GarridoJames M. RoeJosé-Luis Alatorre-WarrenMarkus H. SneveDavid Bartrés-FazAlvaro Pascual-LeoneAndreas M. BrandmaierSandra DüzelSimone KühnUlman LindenbergerLars NybergLeiv Otto WatneRichard N. HensonKristine B. WalhovdHåkon GrydelandaCenter for Lifespan Changes in Brain and Cognition, Department of Psychology, University of Oslo, Oslo 0317, NorwaybComputational Radiology and Artificial Intelligence, Department of Radiology and Nuclear Medicine, Oslo University Hospital, Oslo 0372, NorwaycDepartment of Medicine, Faculty of Medicine and Health Sciences and Neurosciences Institute, University of Barcelona, Barcelona 08036, SpaindInstitut Guttmann, Institut Universitari de Neurorehabilitació adscrit a la Universidad Autónoma de Barcelona, Badalona 08916, SpaineFundació de Recerca Clínic Barcelona, Institut d'Investigacions Biomèdiques August Pi i Sunyer, Barcelona 08036, SpainfHinda and Arthur Marcus Institute for Aging Research and Deanna and Sidney Wolk Center for Memory Health, Hebrew SeniorLife, Boston, MA 02131gDepartment of Neurology, Harvard Medical School, Boston, MA 02115hCenter for Lifespan Psychology, Max Planck Institute for Human Development, Berlin 14195, GermanyiDepartment of Psychology, MSB Medical School Berlin, Berlin 14197, GermanyiMax Planck University College London Centre for Computational Psychiatry and Ageing Research, Berlin 14195, GermanykMax Planck University College London Centre for Computational Psychiatry and Ageing Research, London WC1B 5EH, United KingdomlDepartment of Psychiatry and Psychotherapy, University Clinic Hamburg-Eppendorf, Hamburg 20251, GermanymCenter for Environmental Neuroscience, Max Planck Institute for Human Development, Berlin 14195, GermanynUmeå Center for Functional Brain Imaging, Umeå University, Umeå 901 87, SwedenoDepartment of Medical and Translational Biology, Umeå University, Umeå 901 87, SwedenpDepartment of Diagnostics and Intervention, Umeå University, Umeå 901 87, SwedenqOslo Delirium Research Group, Institute of Clinical Medicine, Campus Ahus, University of Oslo, Oslo 0318, Norwayr Department of Geriatric Medicine, Akershus University Hospital, Lørenskog 1478, NorwaysMedical Research Council Cognition and Brain Sciences Unit, Department of Psychiatry, University of Cambridge, Cambridge CB2 7EF, United Kingdom



**Summary:** Proceedings of the National Academy of Sciences, Volume 122, Issue 42, October 2025. <br/>
Str />As Alzheimer's disease (AD) is diagnosed more frequently in women, understanding the role of sex has become a key priority in AD research. However, despite aging being the primary risk factor for AD, it remain...

#### **Read full article:**

https://www.pnas.org/doi/abs/10.1073/pnas.2510486122?af=R

# Functional organization of the primary motor cortex in psychosis and the potential role of intereffector regions in psychomotor slowing

Sebastian WaltherFlorian WüthrichAnastasia PavlidouNiluja NadesalingamStephan HeckersMelanie G. NuofferVictoria ChapellierKatharina StegmayerLydia V. MaderthanerAlexandra KyrouSofie von KänelStephanie LefebvreaUniversity Hospital of Psychiatry and Psychotherapy Bern, Translational Research Center, University of Bern, 3000 Bern, SwitzerlandbTranslational Imaging Center, Swiss Institute for Translational and Entrepreneurial Medicine, 3000 Bern, SwitzerlandcDepartment of

■ Psychiatry, Psychosomatics, and Psychotherapy, Center of Mental Health, University Hospital of Würzburg, 97080 Würzburg, GermanydDepartment of Psychiatry and Behavioral Science, Vanderbilt University, Nashville, TN 37232eGraduate School for Health Sciences, University of Bern, 3000 Bern, SwitzerlandfUniversity Hospital Inselspital Bern, Department for Neurology, Psychosomatic Medicine, 3000 Bern, SwitzerlandgDepartment of Consultation-Liaison Psychiatry and Psychosomatic Medicine, University Hospital Zurich, University of Zurich, 8091 Zurich, Switzerland



**Summary:** Proceedings of the National Academy of Sciences, Volume 122, Issue 42, October 2025. <br/>
SignificanceRecent literature recommended a revision of the human motor homunculus to include, in addition to the primary motor cortex regions active during movement execution, intereffector regions orchestrat...

https://www.pnas.org/doi/abs/10.1073/pnas.2425388122?af=R

## Super-resolution microscopy and deep learning methods: what can they bring to neuroscience: from neuron to 3D spine segmentation

Lydia 1 130 Danglot min words

FRONTIERS NEUROINFORMATICS

Summary: In recent years, advances in microscopy and the development of novel fluorescent probes have significantly improved neuronal imaging. Many neuropsychiatric disorders are characterized by alterations in neuronal arborization, neuronal loss—as seen in Parkinson's disease—or synaptic loss, as in Alzhei...

**⊗** Read full article:

https://www.frontiersin.org/articles/10.3389/fninf.2025.1630133

## Early heart disease prediction using LV-PSO and Fuzzy Inference Xception Convolution Neural Network on phonocardiogram signals



C. 254
Palanisamy min words



FRONTIERS NEUROINFORMATICS

**Summary:** IntroductionHeart disease is one of the leading causes of mortality worldwide, and early detection is crucial for effective treatment. Phonocardiogram (PCG) signals have shown potential in diagnosing cardiovascular conditions. However, accurate classification of PCG signals remains challenging due t...

Read full article:

https://www.frontiersin.org/articles/10.3389/fninf.2025.1655003

# Circuit-level modeling of prediction error computation of multi-dimensional features in voluntary actions

Yiling 1 207

FRONTIERS COMPUTATIONAL NEUROSCIENCE

**Summary:** IntroductionPredictive processing posits that the brain minimizes discrepancies between internal predictions and sensory inputs, offering a unifying account of perception, cognition, and action. In voluntary actions, it is thought to suppress self-generated sensory outcomes. Although sensory mismatc...

https://www.frontiersin.org/articles/10.3389/fncom.2025.1551555

## Listening to mom in the neonatal intensive care unit: a randomized trial of increased maternal speech exposure on white matter connectivity in infants born preterm

Heidi M.

7 2025-10-14 min 344 words

FRONTIERS HUMAN NEUROSCIENCE

Summary: ObjectiveEarly speech experiences are presumed to contribute to the development of brain structures involved in processing speech. Previous research has been limited to correlational studies. Here, we conducted a randomized trial with neonates born preterm to determine whether increased exposure to ...

Read full article:

https://www.frontiersin.org/articles/10.3389/fnhum.2025.1673471

#### **Emerging neuromodulation treatments for opioid and** stimulant use disorders

Katherine W. 1 115
Scangos min words

FRONTIERS HUMAN NEUROSCIENCE

Summary: Over the past decade, deaths attributable to opioid and stimulant use have risen dramatically. While the U.S. Food and Drug Administration (FDA) has approved three medications for opioid use disorder, there is currently no FDA-approved treatment for stimulant use disorder. Despite the availability o...

https://www.frontiersin.org/articles/10.3389/fnhum.2025.1570555

### Adaptive-expert-weight-based load balance scheme for dynamic routing of MoE

Peng 1 197 Cheng min words

FRONTIERS NEUROROBOTICS

Summary: Load imbalance is a major performance bottleneck in training mixture-ofexperts (MoE) models, as unbalanced expert loads can lead to routing collapse. Most existing approaches address this issue by introducing auxiliary loss functions to balance the load; however, the hyperparameters within these lo...

https://www.frontiersin.org/articles/10.3389/fnbot.2025.1590994

# A Comprehensive Evaluation of Consumer Trends and the **Bioactive Content of Extra Virgin Olive Oil: Comparative Insights into Trademarked and Local Products**









TDCS TACS TRNS

Summary: This multidisciplinary comparative study investigates consumption patterns, health-related properties, and quality attributes of trademarked and local extra virgin olive oil (EVOO) samples. It highlights the importance of localization in promoting agricultural sustainability, strengthening regional ...

#### 

https://pubmed.ncbi.nlm.nih.gov/41097552/?

# **Effects of Cerebellar tACS With Gamma Band on Basketball Shooting Skills: A Single-Blind, Randomized Controlled Trial** in College Students With Basketball Experience









Summary: CONCLUSIONS: Our results indicate that 70 Hz tACS over the cerebellum may improve basketball shooting skills. These results provide valuable insights into the practical application of tACS in sports. I The purpose of this study was to determine the effects of cerebellar tACS on basketball shooting s...

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/41097859/?

utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=143rKCPgMwbasrj66gQ1 r1ebioUg42SIGRyVKSoW4m6X-ecQ00&fc=None&ff=20251017034026&v=2.18.0.post9+e462414

### Use of a Vertical Traction Device in the Management of an **Open Abdomen: A Case Report**







TDCS TACS TRNS

**Summary:** A laparostomy procedure, a critical intervention frequently employed in both trauma and non-trauma patients, is a key component of damage control resuscitation. The use of a vertical traction device (VTD), specifically Fasciotens® Abdomen (FTA), is a relatively novel technology that prevents fascial...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41098301/?

### A Systematic Review of Reporting Adverse Effects **Associated With Transcranial Direct Current Stimulation in Chronic Pain**

Daniela-Viorica
Mosoiu

1 2025-10-16 min 46 words

TDCS TACS TRNS

Summary: CONCLUSIONS: In the present form of reporting AEs of tDCS in clinical studies involving patients with chronic pain, this procedure seems to be safe. Nevertheless, we identified diverse modalities of reporting and assessing AEs, which should raise the need for a standardized procedure in this domain.

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/41099741/?

utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=143rKCPgMwbasrj66gQ1 r1ebioUg42SIGRyVKSoW4m6X-ecQ00&fc=None&ff=20251017034026&v=2.18.0.post9+e462414

#### **Therapeutic Strategies for Patient Safety**



1 67 min words



TDCS TACS TRNS

Summary: CONCLUSIONS: The development of a health system based on moral and ethical values and oriented toward increasing the quality of life through therapeutic strategies and measures to ensure patient safety, a holistic approach to the patient and the disease, and the development of personalized therapies...

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https://pubmed.ncbi.nlm.nih.gov/41099742/?

## Transcranial direct current stimulation (tDCS) for cognitive impairment in schizophrenia: A systematic review and metaanalysis of randomized controlled trials

Roberto Rodriguez
Jimenez

1

46

words

TDCS TACS TRNS

Summary: CONCLUSIONS: tDCS shows domain-specific potential for cognitive enhancement in schizophrenia, particularly in verbal learning. However, the small effect sizes, high heterogeneity, and limited methodological rigor of included trials warrant cautious interpretation. Future research should emphasize st...

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/41101579/?

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### Cortical modulation by exogenous electric fields is consistent with electric dipoles

Maria V Sanchez-

1 65 words

TDCS TACS TRNS

Summary: Cortical activity can be modulated by endogenous and exogenous electric fields (EFs). Recent experimental and computational data suggested that endogenous EFmediated effects are compatible with electric dipoles, which contribute to the synchronization of neighboring cortical columns. Consistently, ...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41101621/?

### A deep learning approach to artifact removal in Transcranial **Electrical Stimulation: From shallow methods to deep neural** networks and state space models

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Summary: Transcranial Electrical Stimulation (tES) is a non-invasive neuromodulation technique that generates artifacts in simultaneous EEG recordings, hindering brain activity analysis. This study analyzes Machine Learning (ML) methods for tES noise artifact removal across three stimulation types: tDCS, tAC...

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/41101623/?

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### Diffusion trajectory of atypical morphological development in autism spectrum disorder



1 2025-10-16 min 68





TDCS TACS TRNS

Summary: Brain development from childhood through adolescence is crucial for understanding autism spectrum disorder (ASD). Yet how functional networks regulate developmental changes in brain morphology remains unclear. Here, we analyzed gray matter volume (GMV) and functional connectivity (FC) in 301 individ...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41102402/?

#### Primary stabbing headache in a tertiary headache centre

1 2025-10-16 min 58

TDCS TACS TRNS

Summary: INTRODUCTION: Primary stabbing headache (PSH) is a short-lasting head pain occurring spontaneously in the absence of underlying structural causes. Although it is a frequent disorder, with a reported lifetime prevalence of 35.2% in the general population, its pathophysiological underpinnings remain i...

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https://pubmed.ncbi.nlm.nih.gov/41102620/?

utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=143rKCPgMwbasrj66gQ1 r1ebioUg42SIGRyVKSoW4m6X-ecQ00&fc=None&ff=20251017034026&v=2.18.0.post9+e462414

### Continuous affect responses to a large diverse set of unfamiliar music: Bayesian time-series and cluster analyses.

1 252 min 2023-04-20 min 252



PSYCHOMUSICOLOGY

Summary: Sixty-nine participants made continuous response judgments of perceived arousal and valence while listening to 30-s extracts of 100 unfamiliar pieces within a novel recommender system. Our purpose was to take advantage of the relatively large number of participants and pieces studied (compared with ...

#### Read full article:

http://doi.org/10.1037/pmu0000295

#### <em>Psychomusicology</em>: A resounding closing cadence.

1 256 min words

PSYCHOMUSICOLOGY

Summary: From 2012 to 2023, the American Psychological Association served as publisher of <em>Psychomusicology: Music, Mind, and Brain</em>. Annabel Cohen and Mark Schmuckler were the successive editors-in-chiefs during this time. As the journal is ceasing publication, the two editors reflect on the developm...

http://doi.org/10.1037/pmu0000305

### How to deal with regression to the mean when selecting out conscious trials in order to analyze unconscious trials.

1 2024-09-09 min 261 words





CLINICAL NEUROSCIENCE

Summary: In implicit cognition research generally, one standard strategy is to measure the conscious status of knowledge on each trial (e.g., with confidence, structural knowledge attributions, visual clarity ratings) and then subselect the trials where the knowledge is measured to be unconscious. If the acc...

Read full article:

# Anomalous experiences are associated with high subconscious connectedness.

1 2025-04-17 min 264 CLINICAL NEUROSCIENCE

**Summary:** A series of three studies in the United States, collectively involving 2,216 research participants and including two nationwide Internet surveys, examined the relationship of anomalous experiences with the psychological trait of subconscious connectedness, as well as with several other psychological...

http://doi.org/10.1037/cns0000428

# When the unconscious contents are expressed in both Rorschach Performance Assessment System (R-PAS) and dreams: An experimental study.



**Summary:** The Rorschach cards may elicit components of personality functioning that escape consciousness but which may influence observable performance during the test. Similarly, the manifest content of dreams may contain unconscious experiential elements that contribute to the formation of the content that ...

# Ignorance is bliss: A meta-analysis of the fear-reducing effects of very brief exposure.

1 268 min words

**Summary:** Neuroscientific research on the unconscious basis of fear has been translated into novel interventions designed to reduce fear without conscious awareness. To date, the most empirically supported nonconscious exposure intervention is <em>very brief exposure</em> (VBE), the continuous presentation of...

CLINICAL NEUROSCIENCE

http://doi.org/10.1037/cns0000435

# Testing the theoretical position that subconscious phenomena are conscious but not self-conscious.

1 98 CLINICAL NEUROSCIENCE words

**Summary:** Building on Fechner's theory of subliminal perception (perception below the absolute threshold for self-conscious apperception) and Morton Prince's theory that subconscious experiences are conscious but not self-conscious, source-monitoring theory attributes the generic self-conscious inference <em>...

**Read full article:** 

# Paradigm's relevance in empirical research biases: Hypnotizability, resilience, and self-control, an empty systematic review.

1 193 CLINICAL NEUROSCIENCE min words

Summary: There are different perspectives on the psychological constructs of resilience and hypnotizability, and both are related to aspects of mental health. Resilience has been associated with protective variables, whereas hypnotizability has been related to psychopathological variables. This systematic re...

http://doi.org/10.1037/cns0000384

#### Mechanistic pathways of acceptance: An experimental study.

1 177 2023-08-17 min words

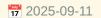


CLINICAL NEUROSCIENCE

Summary: Acceptance can improve psychological functioning. However, research has yielded inconsistent findings regarding the efficacy of acceptance, which may be related to instructions to accept different aspects of psychological functioning (e.g., thoughts vs. emotion). We compared the effects of self-regu...

Read full article:









FMHY

Summary: People always want to know what the point of life is. Why are they on earth? What are we doing here? Whats our purpose? <em>Whats the point?</em> For most of my life, I didn't really have any answer, but as I got older, I realized, things weren't about me. I took a step back, and recognize...

**⊗** Read full article:

https://fmhy.net/posts/WWH

#### **Table of Contents**





TRANSACTIONS HAPTICS

http://ieeexplore.ieee.org/document/11174043

#### **Front Cover**





**⊗** Read full article:

http://ieeexplore.ieee.org/document/11174042

#### An Exploration of the Electrocorticogram Signatures Evoked by Ultrasound Thalamus Stimulation Under Isoflurane **Anesthesia in Rats**



TRANSACTIONS BIOMEDICAL ENGINEERING

Summary: Objective: The transcranial ultrasound stimulation (TUS) on the thalamus can indirectly induce cortical response. Studies have shown that general anesthetic induced unconsciousness is related to interruption of thalamocortical connectivity. However, the neural mechanism of how anesthesia levels infl...

**⊗** Read full article:

http://ieeexplore.ieee.org/document/10945385

#### **Pulmonary Hypertension Detection From Heart Sound Analysis**

1 2025-03-28 min 206





TRANSACTIONS BIOMEDICAL ENGINEERING

Summary: The detection of Pulmonary Hypertension (PH) from the computer analysis of digitized heart sounds is a low-cost and non-invasive solution for early PH detection and screening. We present an extensive cross-domain evaluation methodology with varying animals (humans and porcine animals) and varying au...

Read full article:

http://ieeexplore.ieee.org/document/10944577

#### Transcranial Focused Ultrasound Modulates Visual Thalamus in a Nonhuman Primate Model



TRANSACTIONS BIOMEDICAL ENGINEERING

Summary: Objective: The thalamus plays a pivotal role as a neural hub, integrating and distributing visual information to cortical regions responsible for visual processing. Transcranial focused ultrasound (tFUS) has emerged as a promising non-invasive brain stimulation technology, enabling modulation of neu...

**⊗** Read full article:

http://ieeexplore.ieee.org/document/10950083

An Active Insole to Reduce Plantar Pressure Loading: Using **Predictive Finite Element Driven Soft Hydraulic Actuators to Minimize Plantar Pressure and the Pressure Time Integral for Diabetic Foot Ulceration Risk Management** 

1 230 min words





TRANSACTIONS BIOMEDICAL ENGINEERING

Summary: Objective: This article aims to design, manufacture and evaluate an active insole to reduce plantar tissue loading to minimise the risk of diabetic foot ulceration for people living with diabetes. Methods: A prototype hydraulic soft robotic actuating insole was produced. It was controlled by an appr...

Read full article:

http://ieeexplore.ieee.org/document/10938869

### **Optimizing Non-Intersecting Synthetic Vascular Trees in Nonconvex Organs**

1 196 min words

TRANSACTIONS BIOMEDICAL ENGINEERING

Summary: Objective: The understanding of the mechanisms driving vascular development is still limited. Techniques to generate vascular trees synthetically have been developed to tackle this problem. However, most algorithms are limited to single trees inside convex perfusion volumes. We introduce a new frame...

http://ieeexplore.ieee.org/document/10944261

# **Epilepsy-associated Variants of a Single SCN1A Codon exhibit Divergent Functional Properties**

Liebovitz, L. N., Thompson, C. H., Laux, L. L., George, A.

1 234 words

**BIORXIV NEUROSCIENCE** 

Summary: Objective: Pathogenic variants in SCN1A, which encodes the voltage gated sodium channel NaV1.1, are associated with multiple epilepsy syndromes exhibiting a range of clinical severity. Loss or gain of function SCN1A variants are reported in different syndromes including Dravet syndrome, which is ass...

https://www.biorxiv.org/content/10.1101/2025.10.16.682932v1?rss=1

# Activation of CP-AMPARs is required for homosynaptic and heterosynaptic structural LTP in the hippocampus

Koek, L. A., Sanderson, T. M., Bond, G., Georgiou, J., Scholl, B., Collingridge, G. L.

1 min 220 BIORXIV NEUROSCIENCE

**Summary:** Long-term potentiation (LTP) involves alterations in synaptic structure that are believed to underlie the persistent increase in synaptic efficacy. Here we compared structural LTP (sLTP) in EGFP-labelled spines with functional LTP, using field potential recording, at CA3-CA1 synapses in mouse hippoc...

https://www.biorxiv.org/content/10.1101/2025.10.16.682923v1?rss=1

# Fast Capture, Slow Shift: How Working Memory Guides Perception



**Summary:** The top-down influence of working memory (WM) can manifest as attentional capture and a "tinted lens" that alters perceptual appearance. Yet it remains unclear whether these effects arise from a common mechanism or reflect functionally and mechanistically distinct processes. Across two experiments, ...

Read full article:

https://www.biorxiv.org/content/10.1101/2025.10.16.682875v1?rss=1

## **Investigating the Contribution of Molecular-Enriched Functional Connectivity to Brain-Age Analysis**

Pinamonti, M., Moretto, M., Sammassimo, V., Castellaro, M., Veronese,

1 2025-10-16 min

278 words

BIORXIV NEUROSCIENCE

Summary: Brain-age prediction from neuroimaging data provides a proxy of biological aging, yet most models rely on structural magnetic resonance imaging (MRI), a modality that captures macroanatomy but offers limited biological specificity. We tested whether integrating molecular-enriched functional connecti...

**Read full article:** 

https://www.biorxiv.org/content/10.1101/2025.10.16.682939v1?rss=1

# **Sleep after Motor Sequence Learning Enhances Post-Movement Parietal Beta Synchronization**

Bernier, M.-F., Hoyer, R. S., Lecaignard, F., Nicolas, A., Bertrand, O., Albouy, P., Albouy,





Summary: The neural substrates supporting the beneficial effect of sleep on motor memory consolidation are well described. However, less is known about the brain oscillatory dynamics underlying these processes. We characterized the oscillatory dynamics associated with motor sequence learning and their modula...

https://www.biorxiv.org/content/10.1101/2025.10.16.682965v1?rss=1

# Evaluating oscillatory mechanisms underlying flexible neural communication in the human brain

Madan Mohan, V., Varley, T. F., Harris, A. M., Cash, R. F. H., Seguin, C., Zalesky, A.

1 201 BIORXIV NEUROSCIENCE words

**Summary:** How the brain orchestrates the flow of information between its multiple functional units flexibly, quickly, and accurately, remains a fundamental question in neuroscience. Multiple theories identify neural oscillations as a likely basis for this process. However, a lack of empirical validation of pr...

https://www.biorxiv.org/content/10.1101/2025.10.16.682957v1?rss=1

# Longitudinal study of single-pulse TMS in infants with perinatal brain injury: safety and feasibility



**Summary:** IntroductionPerinatal brain injury is a leading cause of cerebral palsy. Single-pulse transcranial magnetic stimulation (spTMS) provides a non-invasive method for investigating motor pathway development; however, data on the safety and feasibility of its repeated use in infants are limited. This stu...

https://www.frontiersin.org/articles/10.3389/fnhum.2025.1686054

## Loudness dependence of auditory evoked potentials reflects trait anxiety and harm avoidance in healthy adults: an exploratory study

Makoto
Nishihara

1
2025-10-15
min

181
words

FRONTIERS HUMAN NEUROSCIENCE

Summary: Loudness dependence of auditory-evoked potentials (LDAEP), a neurophysiological measure that reflects central serotonergic activity, is also influenced by the noradrenaline and dopamine systems. While it has been used in investigations of various psychiatric disorders, the fundamental characteristic...

**⊗** Read full article:

https://www.frontiersin.org/articles/10.3389/fnhum.2025.1615407

## The diagnostic significance of pupillary reflex pathways: insights from classical examination and advanced pupillometry

Joanna 1 212 Konopińska min words

FRONTIERS NEUROSCIENCE

**Summary:** Background/objectivesThe pupil, a dynamic ocular structure, serves as a critical indicator of neurological and ophthalmological function. This interdisciplinary review explores the anatomical, physiological, and pathological aspects of pupillary reflexes and disorders.ContentEmphasis is placed on th...

Read full article:

https://www.frontiersin.org/articles/10.3389/fnins.2025.1677431

# Endovascular management of tandem embolic stroke due to cardioembolic free-floating thrombus: a case report



**Summary:** BackgroundTandem lesions (TLs), defined as simultaneous occlusions of both extracranial and intracranial arteries, represent a particularly challenging subset of large vessel occlusion (LVO) strokes. While most TLs are attributed to atherosclerotic changes or arterial dissection, a smaller subset or...

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https://www.frontiersin.org/articles/10.3389/fnins.2025.1654601

# Development of novel signal and spike velocity analysis tools in compact peripheral nerve recording designs

Jonas Klus, Alexander J Boys, Ruben Ruiz-Mateos Serrano, George G Malliaras and Alejandro Carnicer-Lombarte



**Summary:** Objective. Analysis tools for peripheral nerve recordings remain underdeveloped compared to those for brain signals, limiting the advancement of nerve neurotechnologies for clinical treatments such as closed-loop systems. This study introduces and explores the performance of two novel nerve signal a...

#### Read full article:

http://iopscience.iop.org/article/10.1088/1741-2552/ae0c3b

# BGTransform: a neurophysiologically informed EEG data augmentation framework

Jin Yue, Xiaolin Xiao, Hao Zhang, Minpeng Xu and Dong Mina

1 2025-10-14 min

279 words

JOURNAL NEURAL ENGINEERING

**Summary:** Objective. Deep learning has emerged as a powerful approach for decoding electroencephalography (EEG)-based brain–computer interface (BCI) signals. However, its effectiveness is often limited by the scarcity and variability of available training data. Existing data augmentation methods often introdu...

**⊗** Read full article:

http://iopscience.iop.org/article/10.1088/1741-2552/ae0c3a

# Using economic value signals from primate prefrontal cortex in neuro-engineering applications

Tevin C Rouse, Shira M Lupkin and Vincent B McGinty

1 276 min words

JOURNAL NEURAL ENGINEERING

**Summary:** Objective. Brain–machine interface (BMI) research has shown the efficacy of using motor and sensory-related neural signals to assist physically impaired patients. Despite the comparable ability to extract more abstract cognitive signals from the brain, little effort has been devoted to leveraging th...

Read full article:

http://iopscience.iop.org/article/10.1088/1741-2552/ae0bf6

#### Inter-ictal spike rates are not modulated by anti-seizure medication taper in the epilepsy monitoring unit: a tale of two confounders \*

Nina J Ghosn, Katherine Walsh, Kevin Xie, Carlos Aguila, Akash R Pattnaik, Devin Ma, Abba M Krieger, Erin C Conrad and Brian Litt

1 2025-10-14 min 273 words

JOURNAL NEURAL ENGINEERING

Summary: Objective. New implantable and wearable devices hold great promise to help patients manage their seizure disorders. One proposed application is measuring the rate of interictal epileptiform discharges as a biomarker of medication levels and seizure risk. This study aims to determine whether interict...

http://iopscience.iop.org/article/10.1088/1741-2552/ae0521

# Neuralace: manufacture, parylene-C coating, and mechanical properties

Juan Pablo Botero, Spencer M Roberts, Piotr Mackowiak, Nicholas S Witham, Lukas Selzer, Balaji Srikanthan, Kai Zoschke, Sandeep Negi and Florian Solzbacher



**Summary:** Objective. This study investigates the mechanical properties of the Neuralace, a novel ultra-thin, high-channel-count mesh-type subdural electrode array, to characterize its mechanical compatibility with neural tissue (i.e., the forces exerted onto the brain upon conformation) for chronic brain—comp...

#### 

http://iopscience.iop.org/article/10.1088/1741-2552/ae0c39

# Prefrontal activation in bipolar and unipolar depression patients in the letter fluency tasks and category fluency tasks: a functional near-infrared spectroscopy study



**Summary:** CONCLUSION: Our findings indicate that the LFT elicits more extensive prefrontal activation, with differential engagement of the VLPFC in BD compared to UD. These results suggest potential neuroimaging biomarkers for distinguishing between UD and BD, while also providing insights into the neural sub...

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D2g6PNu7rHRFDsLyCNjKkkf4KHBUA3c8P&fc=None&ff=20251017032001&v=2.18.0.post9+e462414

#### Neural predictors of hidden, persistent psychological states at work

Matthew D
Lieberman

1
69
words

Summary: Common workplace challenges such as feeling overwhelmed, burned out, or disengaged often remain hidden due to fear of judgment or social norms, contributing to rising mental health crises and organizational dysfunction. This study presents a brainbased framework for predicting these hidden and pers...

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# **Dose-dependent enhancement of coordination through** multibrain transcranial stimulation: A fNIRS hyperscanning study









**Summary:** Coordination serves as a fundamental driving force in the evolution of human society, and transcranial electrical stimulation (tES) is increasingly recognized for its ability to modulate human coordination. However, the neural mechanisms underlying coordination and whether tES positively influences ...

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# Functional connectivity in whole-brain and network analysis differentiates minimally conscious from unresponsive patients: a resting-state fNIRS study











Summary: CONCLUSION: fNIRS could effectively detect abnormal brain network functional connectivity in DOC patients and could provide valuable insights for differentiating MCS and VS/UWS patients.

#### 

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Predicting Individual Response to Acupuncture in Sensorineural Tinnitus Using Integrated Functional Near-Infrared Spectroscopy and Machine Learning: Protocol for a Model Development and Validation Study



**Summary:** CONCLUSION: This study represents the first attempt to integrate fNIRS detection with machine learning techniques for predicting acupuncture efficacy in SNT treatment. The methodology addresses several key challenges in acupuncture research through comprehensive data collection and advanced analytic...

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### Online Regulation of Task Difficulty based on Neuro- and **Motor-feedback to improve engagement in Visual-motor Task**



1 36 min words



**Summary:** CONCLUSION: Our findings suggest that the proposed NMF system can enable online neural activity regulation in visual-motor tasks and achieve enhanced integration between cognitive and sensorimotor areas, with the potential to improve the rehabilitation training outcomes.

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#### Effect of lower limb mirror visual feedback on cortical activation in healthy subjects: a self-controlled randomized trail



Li 1 31 words







Summary: CONCLUSION: LLMVF increases neural activity in the sensory and motor related areas, indicating that LLMVF can promote more activation of brain functional areas, which verifies the top-down positive effect of LLMVF.

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## TSFNet: Temporal-Spatial Fusion Network for Hybrid Brain-Computer Interface



**Summary:** Unimodal brain-computer interfaces (BCIs) often suffer from inherent limitations due to the characteristic of using single modalities. While hybrid BCIs combining electroencephalography (EEG) and functional near-infrared spectroscopy (fNIRS) offer complementary advantages, effectively integrating th...

#### 

https://pubmed.ncbi.nlm.nih.gov/41094934/?

Diagnostic Efficacy of Olfactory Function Test Using Functional Near-Infrared Spectroscopy with Machine Learning in Healthy Adults: A Prospective Diagnostic-Accuracy (Feasibility/Validation) Study in Healthy Adults with Algorithm Development



**Summary:** Background/Objectives: The YSK olfactory function (YOF) test is a culturally adapted psychophysical tool that assesses threshold, discrimination, and identification. This study evaluated whether functional near-infrared spectroscopy (fNIRS) synchronized with routine YOF testing, combined with machin...

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## **Enhanced Activation in the Dorsolateral Prefrontal Cortex** and Inferior Parietal Lobule During Recovery from Body Dissatisfaction







Summary: Previous studies have examined the neural mechanisms of body dissatisfaction. This study aimed to investigate the neural basis of recovery from body dissatisfaction. Sixty-seven young women participated in this study, engaging in a fat talk-a conversation known to induce body dissatisfaction-followe...

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## Create a Custom Interactive dashboard using SVG





Summary: <a href="https://news.ycombinator.com/item?id=45565977">Comments</a>



https://0xmm.in/posts/custom\_dash/

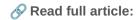






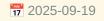


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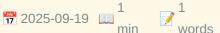


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#### **Front Cover**







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#### A Survey of Few-Shot Learning for Biomedical Time Series





REVIEWS BIOMEDICAL ENGINEERING

Summary: Advancements in wearable sensor technologies and the digitization of medical records have contributed to the unprecedented ubiquity of biomedical time series data. Data-driven models have tremendous potential to assist clinical diagnosis and improve patient care by improving long-term monitoring cap...

http://ieeexplore.ieee.org/document/10745649

## The impact of CSF-filled cavities on scalp EEG and its **implications**

Maria Carla
Piastra

1
2024-06-14

min

64

words

OOSTENVELD ROBERT

Summary: Previous studies have found electroencephalogram (EEG) amplitude and scalp topography differences between neurotypical and neurological/neurosurgical groups, being interpreted at the cognitive level. However, these comparisons are invariably accompanied by anatomical changes. Critical to EEG are the...

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## Motion-BIDS: an extension to the brain imaging data structure to organize motion data for reproducible research



1 72 min words

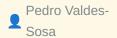
OOSTENVELD ROBERT

Summary: We present an extension to the Brain Imaging Data Structure (BIDS) for motion data. Motion data is frequently recorded alongside human brain imaging and electrophysiological data. The goal of Motion-BIDS is to make motion data interoperable across different laboratories and with other data modalitie...

#### 

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#### One hundred years of EEG for brain and behaviour research







OOSTENVELD ROBERT

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## Freezing of gait in Parkinson's disease is related to imbalanced stopping-related cortical activity







OOSTENVELD ROBERT

Summary: Freezing of gait, characterized by involuntary interruptions of walking, is a debilitating motor symptom of Parkinson's disease that restricts people's autonomy. Previous brain imaging studies investigating the mechanisms underlying freezing were restricted to scan people in supine positions and yie...

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## The past, present, and future of the brain imaging data structure (BIDS)

Krzysztof J
Gorgolewski

Sorgolewski

Gorgolewski

Sorgolewski

Sorgolewski

Sorgolewski

Sorgolewski

Sorgolewski

Sorgolewski

Summary: The Brain Imaging Data Structure (BIDS) is a community-driven standard for the organization of data and metadata from a growing range of neuroscience modalities. This paper is meant as a history of how the standard has developed and grown over time. We outline the principles behind the project, the ...

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## **Human cortical high-gamma power scales with movement** rate in healthy participants and stroke survivors

1 65 min words

OOSTENVELD ROBERT

Summary: Motor cortical high-gamma oscillations (60-90 Hz) occur at movement onset and are spatially focused over the contralateral primary motor cortex. Although high-gamma oscillations are widely recognized for their significance in human motor control, their precise function on a cortical level remains el...

#### 

https://pubmed.ncbi.nlm.nih.gov/39786979/?

## NIRS-BIDS: Brain Imaging Data Structure Extended to Near-**Infrared Spectroscopy**

Luca 1 70
Pollonini 2025-01-27 min words

OOSTENVELD ROBERT

Summary: Functional near-infrared spectroscopy (fNIRS) is an increasingly popular neuroimaging technique that measures cortical hemodynamic activity in a non-invasive and portable fashion. Although the fNIRS community has been successful in disseminating open-source processing tools and a standard file forma...

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## Pseudonymisation of neuroimages and data protection: <em>Increasing access to data while retaining scientific utility</em>

Lyuba
Zehl

Zehl

Zo25-06-26 min

Zostenveld robert

Oostenveld robert

Summary: For a number of years, facial features removal techniques such as 'defacing', 'skull stripping' and 'face masking/blurring', were considered adequate privacy preserving tools to openly share brain images. Scientifically, these measures were already a compromise between data protection requirements a...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40568426/?

## Cycling on the Freeway: The perilous state of open-source neuroscience software

Tim M
Tierney

Summary: Most scientists need software to perform their research (Barker et al., 2020; Carver et al., 2022; Hettrick, 2014; Hettrick et al., 2014; Switters & Osimo, 2019), and neuroscientists are no exception. Whether we work with reaction times, electrophysiological signals, or magnetic resonance imaging data, ...

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#### Optimal configuration of on-scalp OPMs with fixed channel counts









OOSTENVELD ROBERT

Summary: Recent technological developments have brought optically pumped magnetometers (OPMs) within reach of the larger neuroscientific community. The current state-of-the-art consists of whole-head systems that measure the magnetic field at >100 locations. OPM sensors can be constructed to measure the fiel...

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## Interplay of Modifiable and Non-Modifiable Risk Factors for **Diabetes Mellitus in Saudi Adults**

Ibrahim M
Gosadi

1
2025-10-16
min

69
Low VISION

Summary: Background/Objectives: Diabetes Mellitus (DM) remains a critical public health issue in Saudi Arabia, shaped by complex interactions among genetic, lifestyle, and sociodemographic factors. This study explores interplay of modifiable and non-modifiable determinants of DM among Saudi adults. Methods: ...

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## Which Physical Therapy Intervention Is Most Effective in **Reducing Secondary Lymphedema Associated with Breast Cancer? A Systematic Review and Network Meta-Analysis**









Summary: Background: Breast cancer-related lymphedema (BCRL) is a common complication that impairs function and quality of life (QoL). The comparative effectiveness of physical therapy interventions (PTIs) remains unclear. This systematic review and network meta-analysis (NMA) was conducted to identify the m...

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## Visual Function Characteristics in <em>STXBP1</em> **Epileptic Encephalopathy Patients**

Dorota Pojda-Wilczek

1 73 min words

LOW VISION

Summary: Background: The goal of the study was to describe the visual function characteristics of children with developmental epileptic encephalopathy resulting from mutations in the STXBP1 gene. Methods: The study included 26 consecutive patients from the Polish STXBP1 population (11 male and 16 female; mea...

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## **Fully Automated Segmentation of Cervical Spinal Cord in Sagittal MR Images Using Swin-Unet Architectures**

Utku Şenol 1 67 min words

**LOW VISION** 

**Summary:** Background/Objectives: The spinal cord is a critical component of the central nervous system that transmits neural signals between the brain and the body's peripheral regions through its nerve roots. Despite being partially protected by the vertebral column, the spinal cord remains highly vulnerable...

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## Monitoring Night-Time Activity Patterns of Laying Hens in Response to Poultry Red Mite Infestations Using Night-Vision Cameras



**Summary:** The poultry red mite (PRM) feeds on hens' blood at night, disrupting sleep, harming welfare, and reducing productivity. Effective control may lie in dynamic Integrated Pest Management (IPM), which relies on routine monitoring and adaptation to farm conditions. This study investigated how PRM infesta...

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# Clinical Potential of Essential Oils: Cytotoxicity, Selectivity Index, and Efficacy for Combating Gram-Positive ESKAPE Pathogens



**Summary:** (1) Background: Essential oils (EOs) have emerged as promising antibacterial agents due to their broad-spectrum activity and low risk of resistance development. Therefore, this review aimed to assess the effectiveness of EOs against Gram-positive ESKAPE pathogens, and to evaluate their safety and to...

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## **Artificial Intelligence-Enhanced Liquid Biopsy and Radiomics** in Early-Stage Lung Cancer Detection: A Precision Oncology **Paradigm**

Shivaram P Arunachalam

1 57 Low vision min words

Summary: CONCLUSION: The integration of AI with liquid biopsy and radiomics holds transformative potential for early lung cancer detection. This non-invasive, scalable, and individualized diagnostic paradigm could significantly reduce lung cancer mortality through timely and targeted interventions. As techno...

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## One-Hot Multi-Level Leaky Integrate-and-Fire Spiking Neural **Networks for Enhanced Accuracy-Latency Tradeoff**









Summary: Spiking neural networks (SNNs) hold significant promise as energy-efficient alternatives to conventional artificial neural networks (ANNs). However, SNNs require computations across multiple timesteps, resulting in increased latency, heightened energy consumption, and additional memory access overhe...

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## Artificial intelligence and computer-aided diagnosis in diagnostic decisions: 5 questions for medical informatics and human-computer interface research









LOW VISION

Summary: OBJECTIVES: Artificial intelligence (AI) has the potential to transform medical informatics by supporting clinical decision-making, reducing diagnostic errors, and improving workflows and efficiency. However, successful integration of AI-based decision support systems depends on careful consideratio...

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## OsiriXGPT: An Innovative AI Co-pilot Plug-In for Seamless **Deployment of Generative AI Models in Scan-to-Scan Reporting Workflows**







LOW VISION

Summary: Generative Artificial Intelligence (GenAI) has the potential to transform radiology by reducing reporting burdens, enhancing diagnostic workflows and facilitating communication of complex radiological information. However, research and adoption remain limited due to the lack of seamless integration ...

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## The taste of trigeminal sensations: relation between taste, lingual tactile acuity, and spicy perception in patients with taste dysfunction

Thomas
Hummel

Thomas

Tactile Acuity

Thomas

Summary: In the oral cavity, oral stereognosis and chemesthesis refer to the abilities to recognize shapes and detect noxious substances, respectively, through various receptors distributed on the tongue. The absence of standardized methods to assess oral somatosensory perception has led to a lack of consens...

#### **⊗** Read full article:

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## **Measuring the Distribution of Tactile Acuity at the Index Finger and Thumb Fingertips**

Hiroyuki

1 75
min words

TACTILE ACUITY

Summary: In our day-to-day activities, we utilize not only the pads of our fingers but also the sides and hemispherical tips when manipulating objects. For teleoperation systems to replicate these real-life interactions, tactile sensation must be presented and distributed across the entire fingertip. Thus, u...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40526544/?

## Optimizing Vibrotactile Feedback for Sensory Substitution in the Thigh: Spatial Acuity and Frequency Characteristics

Leah R

Bent

1

2025-06-27

min

69

words

TACTILE ACUITY

**Summary:** Amputation of a lower limb not only affects mobility but also interferes with sensory feedback, leading to an elevated risk of falls among individuals living with amputation. Sensory substitution, achieved through tactile displays embedded in transfemoral prosthetic sockets, presents a promising non...

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## Directional vibro-tactile hazard warnings for drivers with vision impairments

Alex R

Bowers

1

80

min

words

TACTILE ACUITY

Summary: Vision impairment may delay responses to hazards when driving. In a proof-ofconcept driving simulator study, we evaluated a hazard warning device designed for vision impaired drivers. Three groups participated: 11 persons with central vision loss (CVL; median age 60 years), 12 with homonymous field...

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https://pubmed.ncbi.nlm.nih.gov/40601880/?

## Sensitivity and vagal reactivity to C-tactile-mediated affective touch in mild cognitive impairment due to Alzheimer's disease







Summary: BackgroundC-tactile (CT) afferents preferentially activate in response to slow caress-like touch, evoking a diffuse pleasant sensation and promoting autonomic regulation. According to Braak's classic model, the neurodegenerative process in Alzheimer's disease (AD) only affects somatosensory cortices...

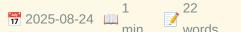
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## Differences in tactile grid localization accuracy between people with back pain compared to individuals without pain









**Summary:** OBJECTIVES: The study aimed to investigate the grid localization test (GLT) between patients with lower back pain and those without back pain.

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https://pubmed.ncbi.nlm.nih.gov/40850311/?

## **Eye Drop Instillation Success and Hand Function in Adults** with Glaucoma: A Pilot Study

Paula Anne Newman-Casev

1 74 TACTILE ACUITY words

Summary: CONCLUSIONS: Despite hand function deficits, in this exploratory pilot study, adults with glaucoma demonstrated eye drop instillation success comparable to those without glaucoma, though with higher rates of bottle tip contact with the eye, skin, or eyelashes, suggesting an increased risk of potenti...

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https://pubmed.ncbi.nlm.nih.gov/40924900/?

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## Functional evidence for early origin of tactile acuity in the vertebrate somatosensory system

Sviatoslav N Bagriantsev

1 2025-09-13 min 58 words

TACTILE ACUITY

Summary: Mammals and reptiles possess a sophisticated somatosensory system for precise tactile discrimination via mechanosensory end-organs, such as Meissner and Pacinian corpuscles and others. These structures detect sustained pressure, velocity, and vibrations, thereby facilitating nuanced environmental in...

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https://pubmed.ncbi.nlm.nih.gov/40945511/?

## The coarse mental map of the breast is anchored on the nipple

Charles M

Greenspon

1

86

words

TACTILE ACUITY

Summary: Touch plays a key role in our perception of our body and shapes our interactions with the world, from the objects we manipulate to the people we touch. While the tactile sensibility of the hand has been extensively characterized, much less is known about touch on other parts of the body. Despite the...

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## **Haptic Feedback Systems for Lower-Limb Prosthetic** Applications: A Review of System Design, User Experience, and Clinical Insights









TACTILE ACUITY

Summary: Systems presenting haptic information have emerged as an important technological advance in assisting individuals with sensory impairments or amputations, where the aim is to enhance sensory perception or provide sensory substitution through tactile feedback. These systems provide information on lim...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41007234/?

## **Gradient Porous Flexible Pressure Sensors with the Relay** Effect for High-Accuracy Braille-to-Speech Recognition

Jianming 1 62
Xu min words

Summary: The development of highly sensitive, wide linear-range flexible pressure sensors is crucial for practical applications in human-computer interaction, physiological signal detection, and motion monitoring. However, traditional flexible pressure sensors often suffer from limited compressibility in the...

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## Individual and community level factors influencing modern contraceptive use among women of reproductive age in South Africa: a multilevel analysis



1 46 min words



BRAILLE

Summary: CONCLUSION: Sensory disability status influenced women's contraceptive behaviour in South Africa. Current family planning interventions should target women with sensory disabilities by prioritising accessible communication methods (e.g., braille, sign language), disability awareness training for hea...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40855574/?

#### **Explosion-powered eversible tactile displays**







BRAILLE

Summary: High-resolution electronic tactile displays stand to transform haptics for remote machine operation, virtual reality, and digital information access for people who are blind or visually impaired. Yet, increasing the resolution of these displays requires increasing the number of individually addressa...

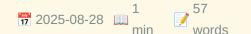
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## A Biomimetic Fiber-Entangled Permeable Electronic Skin for Strain-Insensitive and High-Resolution Tactile Sensing











Summary: Electronic skins (e-skins) incorporating island architectures represent a promising platform for strain-insensitive tactile sensing by mechanically decoupling sensing units from deformations. However, conventional island designs encounter stress concentration issues caused by inherent modulus mismat...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40874468/?

## **High-Density Tactile Sensor Array for Sub-Millimeter Texture** Recognition







BRAILLE

Summary: High-density tactile sensor arrays that replicate human touch could restore texture perception in paralyzed individuals. However, conventional tactile sensor arrays face inherent trade-offs between spatial resolution, sensitivity, and crosstalk suppression due to microstructure size limitations and ...

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https://pubmed.ncbi.nlm.nih.gov/40871941/?

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## A Diachronic Investigation of the Change in Form and Formational-Semantic Systematicity of the Chinese Sign **Language Lexicon**









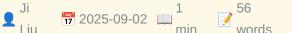
**Summary:** It has been argued in previous research that several competing pressures guide the directions of language evolution (economy vs. redundancy; arbitrariness vs. systematicity). For sign languages, however, the effects of competing pressures on their change of lexical systems remain largely unclear. In...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40889233/?

## Wireless Electrotactile System with Hydrogel-Based **Electrodes for Conformal Tactile Interaction**









BRAILLE

**Summary:** A wireless epidermal electrotactile interface is demonstrated through integration of skin-conformal electrodes and flexible circuitry, addressing existing limitations in haptic technology caused by mechanical mismatch and system-level integration challenges. This electrotactile system achieves low s...

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https://pubmed.ncbi.nlm.nih.gov/40891563/?

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## Beyond access: rethinking assistive technology for individuals with visual impairments in Türkiye











Summary: CONCLUSION: Despite demonstrating adaptability, individuals with VI in Türkiye face significant structural barriers to equitable AT access. Informal learning limited public support, and a lack of locally adapted tools contribute to digital exclusion. A rightsbased approach-emphasizing inclusive fun...

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https://pubmed.ncbi.nlm.nih.gov/40937808/?

# High prevalence of bacterial STI, anal HPV, cytological abnormalities and anal lesions among MSM in Togo, 2021: a baseline analysis of the ANRS I MIE 12,400/DepIST-H cohort



**Summary:** CONCLUSIONS: These findings emphasize the high prevalence of STIs among MSM and confirm the unusual distribution of HPV types in West Africa, with HPV35 being highly prevalent. A national strategy regarding STI screening and HPV vaccination in this key population is needed.

#### 

https://pubmed.ncbi.nlm.nih.gov/41013315/?

## **Development and Assessment of a Novel Audiosensory** Performance Method for Improving the Oral Health of Visually **Impaired Children**





**Summary:** This study evaluated the effectiveness of an audiosensory performance method in enhancing oral health knowledge and status among visually impaired children aged 6-12 years in the National Capital Region (NCR), Delhi. An interventional study design was used, involving 251 participants equally divided...

#### **⊗** Read full article:

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## **Examining the associations between nonbelieved memories** and memory distrust, self-esteem, and rumination.





CLINICAL NEUROSCIENCE

Summary: When beliefs in autobiographical memories are reduced while recollections remain relatively intact, a phenomenon termed nonbelieved memories (NBMs) unfolds. The current preregistered study (<em>N</em> = 104) used a 3-week longitudinal design to investigate the relationships between the frequency of ...



http://doi.org/10.1037/cns0000344

## Relationship between thought suppression and dissociation and the mediating effect of rumination and unusual sleep experiences.

1 198 min words





CLINICAL NEUROSCIENCE

Summary: Dissociation is a phenomenon present in a wide variety of psychiatric disorders as well as in the general population. The objective of this study was to examine the relation between trait thought suppression (TS) and development of dissociative phenomena in the nonclinical population, with emphasis ...

**№** Read full article:

http://doi.org/10.1037/cns0000366

#### Mental pain, boredom, and diffuse nociception.

1 237 min words



CLINICAL NEUROSCIENCE

**Summary:** In this article, I propose a novel theory to explain the possible physiological origins of the relatively mild mental pain that is often labeled as boredom and possibly loneliness or a negative mood, depending on one's situation. My admittedly speculative hypothesis is that most people in modern soc...

Read full article:

http://doi.org/10.1037/cns0000405







HACKER NEWS

Summary: <a href="https://news.ycombinator.com/item?id=45550969">Comments</a>



https://vietnamesetypography.com/samples/read-your-way-through-ha-noi/

#### Wabi - Personal Software Platform





Summary: <a href="https://news.ycombinator.com/item?id=45613781">Comments</a>

https://wabi.ai/

#### Wabi - Personal Software Platform

mharju 7 2025-10-17 min 13 HACKER NEWS

**Summary:** Article URL: <a href="https://wabi.ai/">https://wabi.ai/</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45613781">https://news.ycombinator.com/item?id=45613781</a> Points: 3 # Comments: 0

https://wabi.ai/

## Rethinking task importance in the visual world paradigm

1 14 BRAIN RESEARCH words

**Summary:** Publication date: 15 November 2025<b>Source:</b> Brain Research, Volume 1867Author(s): Falk Huettig, Michael K. Tanenhaus

**Read full article:** 

https://www.sciencedirect.com/science/article/pii/S0006899325005281?dgcid=rss\_sd\_all

## Blackcurrant anthocyanins improve visual contrast resolution for optokinetic responses in aging mice

1 min

NEUROSCIENCE JOURNAL

**Summary:** Publication date: 10 November 2025<b>Source:</b><br/>Neuroscience, Volume 587Author(s): Yuko Sugita, Koki Kobayashi, Hung-Ya Tu,<br/>Daisuke Okuzaki, Takahisa Furukawa

https://www.sciencedirect.com/science/article/pii/S0306452225009170?dgcid=rss\_sd\_all

## Neural network topologies supporting individual variations in vividness of visual imagery

1 min



NEUROIMAGE

**Summary:** Publication date: 1 November 2025<b>Source:</b> NeuroImage, Volume 321Author(s): Timo L. Kvamme, Massimo Lumaca, Claude J. Bajada, Signe Dall Gregersen, Justyna Hobot, Dunja Paunovic, Michal Wierzchon, Blanka Zana, Juha Silvanto, Kristian Sandberg

**⊗** Read full article:

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## C9orf72 hexanucleotide repeat expansions impair microglial response in ALS







Summary: Nature Neuroscience, Published online: 14 October 2025; <a href="https://"><a href="https://"></a> www.nature.com/articles/s41593-025-02075-1">doi:10.1038/s41593-025-02075-1</a> p>This study shows that C9orf72 mutations impair immune activation in ALS, affecting how brain cells communicate, and highlights key differences...



https://www.nature.com/articles/s41593-025-02075-1

## Region-specific drivers of CSF mobility measured with MRI in humans







NATURE NEUROSCIENCE

Summary: Nature Neuroscience, Published online: 14 October 2025; <a href="https://"><a href="https://"></a> www.nature.com/articles/s41593-025-02073-3">doi:10.1038/s41593-025-02073-3</a></ p>Brain clearance mechanisms are challenging to visualize in humans. Using magnetic resonance imaging, the authors noninvasively mapped cerebros...



https://www.nature.com/articles/s41593-025-02073-3

#### Science must break its silence to rebuild public trust

Michael L.

1 95 min words

NATURE NEUROSCIENCE

Summary: Nature Neuroscience, Published online: 14 October 2025; <a href="https://"><a href="https://"></a> www.nature.com/articles/s41593-025-02092-0">doi:10.1038/s41593-025-02092-0</a></ p>This Comment calls on scientists to acknowledge how insufficient communication and limited engagement beyond academia have deepened the divide...

https://www.nature.com/articles/s41593-025-02092-0

#### Glymphatic system and mild traumatic brain injury: a mini review

Adrian Harel

1 242 min words





FRONTIERS NEUROSCIENCE

Summary: Since the discovery of the glymphatic system in 2012, research on this brainwide fluid exchange pathway has focused on understanding its role in different neurological diseases. Mild traumatic brain injury (mTBI) is a prevalent, yet often undiagnosed, condition that increases the risk of developing...

https://www.frontiersin.org/articles/10.3389/fnins.2025.1705690

## Spiking neural networks for EEG signal analysis using wavelet transform

Ying
Liu

17
2025-10-16 min

171

FRONTIERS NEUROSCIENCE

**Summary:** IntroductionBrain-computer interfaces (BCIs) leverage EEG signal processing to enable human-machine communication and have broad application potential. However, existing deep learning-based BCI methods face two critical limitations that hinder their practical deployment: reliance on manual EEG featu...

https://www.frontiersin.org/articles/10.3389/fnins.2025.1652274

## Passive Brain-Computer Interface Using Textile-Based Electroencephalography



**Summary:** Background: Passive brain-computer interface (pBCI) systems use a combination of electroencephalography (EEG) and machine learning (ML) to evaluate a user's cognitive and physiological state, with increasing applications in both clinical and non-clinical scenarios. pBCI systems have been limited by ...

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+e462414

## TSFNet: Temporal-Spatial Fusion Network for Hybrid Brain-**Computer Interface**

Xiaoyang
Yuan

1
2025-10-16 min

63
BRAIN COMPUTER INTERFACE

Summary: Unimodal brain-computer interfaces (BCIs) often suffer from inherent limitations due to the characteristic of using single modalities. While hybrid BCIs combining electroencephalography (EEG) and functional near-infrared spectroscopy (fNIRS) offer complementary advantages, effectively integrating th...

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## **Motor Imagery Acquisition Paradigms: In the Search to Improve Classification Accuracy**



1 71 min words





BRAIN COMPUTER INTERFACE

Summary: In recent years, advances in medicine have been evident thanks to technological growth and interdisciplinary research, which has allowed the integration of knowledge, for example, of engineering into medical fields. This integration has generated developments and new methods that can be applied in a...

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# Investigation of the Prognostic Value of Novel Laboratory Indices in Patients with Sepsis in an Intensive Care Unit: A Retrospective Observational Study





**BRAIN COMPUTER INTERFACE** 

**Summary:** Background: This study aimed to evaluate the prognostic value of some novel laboratory indices in intensive care unit (ICU)-hospitalized sepsis patients. Methods: This retrospective, observational study included 400 patients with sepsis. The indices studied were the C-reactive protein/albumin ratio ...

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+e462414

## Effectiveness of Electroencephalographic Neurofeedback for Parkinson's Disease: A Systematic Review and Meta-Analysis

Andrew Cooke

1 63 min words

BRAIN COMPUTER INTERFACE

Summary: Background: Electroencephalographic (EEG) neurofeedback training is gaining traction as a non-pharmacological treatment option for Parkinson's disease (PD). This paper reports the first pre-registered, integrated systematic review and meta-analysis of studies examining the effects of EEG neurofeedba...

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## A Novel Grasping Robot Control Method Using Motion **Execution BCI Combining Knowledge Reasoning**



1 68 min words



BRAIN COMPUTER INTERFACE

Summary: Recently, with the growing number of disabled people, brain-controlled technology offers a novel way to help patients restore their daily abilities. However, the conventional brain-controlled system based on the motion related task lacks intelligence in real-world environments. To address above prob...

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## Advances in flexible high-density microelectrode arrays for brain-computer interfaces

Woon-Hong
Yeo

1
2025-10-16 min

61
BRAIN COMPUTER INTERFACE

**Summary:** Recent advances in flexible high-density microelectrode arrays (FHD-MEA) have revolutionized brain-computer interfaces (BCIs) by providing high spatial resolution, mechanical compliance, and long-term biocompatibility. This technology enables stable neural recording and precise stimulation, addressi...

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## Neural mechanism of the sexually dimorphic winner effect in mice

1 70 min words



BRAIN COMPUTER INTERFACE

Summary: The "winner effect," where prior victories increase the likelihood of future wins, profoundly shapes social hierarchy dynamics and competitive motivation. Although human literature suggests a less pronounced winner effect in females, the neural mechanisms underlying these sex differences remain uncl...

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## Artificial intelligence and computer-aided diagnosis in diagnostic decisions: 5 questions for medical informatics and human-computer interface research







BRAIN COMPUTER INTERFACE

Summary: OBJECTIVES: Artificial intelligence (AI) has the potential to transform medical informatics by supporting clinical decision-making, reducing diagnostic errors, and improving workflows and efficiency. However, successful integration of AI-based decision support systems depends on careful consideratio...

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## Diffusion trajectory of atypical morphological development in autism spectrum disorder

Xujun 1 68
Duan min words

BRAIN COMPUTER INTERFACE

Summary: Brain development from childhood through adolescence is crucial for understanding autism spectrum disorder (ASD). Yet how functional networks regulate developmental changes in brain morphology remains unclear. Here, we analyzed gray matter volume (GMV) and functional connectivity (FC) in 301 individ...

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## Monolinguals outperform bilinguals in language but not executive function in aging and cognitive impairment.





NEUROPSYCHOLOGY

Summary: Objective: People with subjective cognitive decline (SCD) self-report declining cognitive function, although objective cognitive performance remains normal. SCD is a risk factor for mild cognitive impairment (MCI) and dementia. Previous research has found differences in cognitive performance in bili...

**⊗** Read full article:

**End-stage kidney disease patients exhibited slower** responses to rapidly presented visual stimuli when compared with healthy controls.







NEUROPSYCHOLOGY

Summary: Objective: Using a go/no-go test, we showed that end-stage kidney disease (ESKD) patients have a slower average reaction time (RT) compared with their respective controls. This study aimed to investigate whether the RT of ESKD patients worsened throughout the test and whether RTs were influenced by ...



**⊗** Read full article:

http://doi.org/10.1037/neu0001016

Validation of immersive virtual reality line and baguette bisection tasks for the assessment of unilateral spatial neglect.





NEUROPSYCHOLOGY

**Summary:** Objective: Unilateral spatial neglect (USN) assessment is commonly based on paper-and-pencil tests, including the line bisection task. However, this task lacks sensitivity and does not reflect the symptomatic heterogeneity of USN patients, such as difficulties in extrapersonal space or encountered i...



## The Reading the Mind in the Eyes Test for adults: A refined version in Spanish.

1 193 min words

NEUROPSYCHOLOGY

Summary: Objective: The Reading of the Mind in the Eyes Test (RMET) is widely used to assess theory of mind, but its validity has recently been questioned. This study aimed to present a refined Spanish version of the test and examine its psychometric properties. Method: A total of 1,185 participants from Col...

http://doi.org/10.1037/neu0001033

**Updating the Mattis Dementia Rating Scale to <em>DSM-5</** em>-TR/<em>ICD-11</em>: A new item-division based on the current neurocognitive domains.

1 2025-09-15 min 268 words



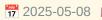


**NEUROPSYCHOLOGY** 

Summary: Objective: The Mattis Dementia Rating Scale (DRS), a widely used cognitive assessment tool, has been revised to align with contemporary diagnostic criteria and cognitive domain classifications such as those outlined in <em>Diagnostic Statistical Manual for Mental Disorders</em>, fifth edition-text r...

Read full article:

Inhibitory control underpins the relationship between cognitive and psychological inflexibility after a moderate to severe traumatic brain injury.





NEUROPSYCHOLOGY

Summary: Objective: Cognitive flexibility is proposed as being one "building block" of psychological inflexibility/flexibility, yet empirical studies examining these associations are scarce. This study aims to examine the relationship between these constructs in those with a moderate to severe traumatic brai...



**⊗** Read full article:

http://doi.org/10.1037/neu0001018

## Comparison of multidomain assessment outcomes between older and middle-aged adults following concussion.







**NEUROPSYCHOLOGY** 

**Summary:** Objective: This article's objective was to compare demographic/medical history and multidomain clinical assessment outcomes between older and middle-aged adults following concussion. Method: Seventy-six patients aged 50-80 years within 12 months of a concussion from a specialty clinic between Octobe...



### Neural correlates of stigma: A systematic review.

1 2025-09-15 min 261 words

NEUROPSYCHOLOGY

**Summary:** Objective: Understanding neural mechanisms underlying the experience and enactment of stigma is needed to address the public health challenge posed by both experienced and enacted stigma. In this systematic review, we synthesized the literature on neural correlates of stigma from the perspective of ...

http://doi.org/10.1037/neu0001037

## Back to the future in <em>Neuropsychology</em>.

1 2025-10-16 min 146 NEUROPSYCHOLOGY

**Summary:** The journal continues to be a leading journal in the field but cannot rest on its laurels; concrete actions will be needed to increase the quantity and quality of submissions. To accomplish this, <em>Neuropsychology</em> needs to build on specific areas of strength. Accordingly, a revised statement ...

**Read full article:** 

## Ask HN: How to stop an AWS bot sending 2B requests/month

**1** 190 words **HACKER NEWS** 

Summary: I have been struggling with a bot– 'Mozilla/5.0 (compatible; crawler)' coming from AWS Singapore – and sending an absurd number of requests to a domain of mine, averaging over 700 requests/second for several months now. Thankfully, CloudFlare is able to handle the traffic with a simple WAF rule a...

**Read full article:** 

https://news.ycombinator.com/item?id=45613567

## Aperiodic brain activity changes in patients with stroke following virtual reality-based upper limb robotic rehabilitation: a pilot Randomized Controlled Trial







FRONTIERS HUMAN NEUROSCIENCE

Summary: IntroductionStroke-related brain changes have traditionally been studied through oscillatory electroencephalographic (EEG) activity, but recent evidence highlights the value of aperiodic components. This pilot randomized controlled trial aimed to assess stroke-related aperiodic EEG changes following...

https://www.frontiersin.org/articles/10.3389/fnhum.2025.1671804

# Abnormal connection between the posterior insula and the gastric network among patients with functional constipation

Ming
Li

254
FRONTIERS HUMAN NEUROSCIENCE
words

**Summary:** BackgroundFunctional constipation (FCon) is frequently accompanied by psychological disorders, implicating the interaction between the gastrointestinal symptom and brain dysfunction in FCon. Recent studies combining electrogastrogram and resting-state functional magnetic resonance imaging (fMRI) hav...

#### 

https://www.frontiersin.org/articles/10.3389/fnhum.2025.1624489

# The taste of trigeminal sensations: relation between taste, lingual tactile acuity, and spicy perception in patients with taste dysfunction



**Summary:** In the oral cavity, oral stereognosis and chemesthesis refer to the abilities to recognize shapes and detect noxious substances, respectively, through various receptors distributed on the tongue. The absence of standardized methods to assess oral somatosensory perception has led to a lack of consens...

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VOQkZ1QsEMPlx7YY7aF6AfClqP-RYZd&fc=None&ff=20251017014238&v=2.18.0.post9+e462414

## **Measuring the Distribution of Tactile Acuity at the Index Finger and Thumb Fingertips**

Hiroyuki
Kajimoto

75 TACTILE ACUITY words

Summary: In our day-to-day activities, we utilize not only the pads of our fingers but also the sides and hemispherical tips when manipulating objects. For teleoperation systems to replicate these real-life interactions, tactile sensation must be presented and distributed across the entire fingertip. Thus, u...

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## **Optimizing Vibrotactile Feedback for Sensory Substitution in** the Thigh: Spatial Acuity and Frequency Characteristics

Leah R
Bent 1 69
words

TACTILE ACUITY

**Summary:** Amputation of a lower limb not only affects mobility but also interferes with sensory feedback, leading to an elevated risk of falls among individuals living with amputation. Sensory substitution, achieved through tactile displays embedded in transfemoral prosthetic sockets, presents a promising non...

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## Directional vibro-tactile hazard warnings for drivers with vision impairments

Alex R

Bowers

1

2025-07-02

min

80

words

TACTILE ACUITY

Summary: Vision impairment may delay responses to hazards when driving. In a proof-ofconcept driving simulator study, we evaluated a hazard warning device designed for vision impaired drivers. Three groups participated: 11 persons with central vision loss (CVL; median age 60 years), 12 with homonymous field...

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## Sensitivity and vagal reactivity to C-tactile-mediated affective touch in mild cognitive impairment due to Alzheimer's disease



1 64 min words



TACTILE ACUITY

Summary: BackgroundC-tactile (CT) afferents preferentially activate in response to slow caress-like touch, evoking a diffuse pleasant sensation and promoting autonomic regulation. According to Braak's classic model, the neurodegenerative process in Alzheimer's disease (AD) only affects somatosensory cortices...

#### Read full article:

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# Differences in tactile grid localization accuracy between people with back pain compared to individuals without pain

Eric 1 2025-08-24 min 22 TACTILE ACUITY

**Summary:** OBJECTIVES: The study aimed to investigate the grid localization test (GLT) between patients with lower back pain and those without back pain.

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## **Eye Drop Instillation Success and Hand Function in Adults** with Glaucoma: A Pilot Study



**Summary:** CONCLUSIONS: Despite hand function deficits, in this exploratory pilot study, adults with glaucoma demonstrated eye drop instillation success comparable to those without glaucoma, though with higher rates of bottle tip contact with the eye, skin, or eyelashes, suggesting an increased risk of potenti...

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## Functional evidence for early origin of tactile acuity in the vertebrate somatosensory system

Sviatoslav N Bagriantsev

1 2025-09-13 min 58 TACTILE ACUITY words

Summary: Mammals and reptiles possess a sophisticated somatosensory system for precise tactile discrimination via mechanosensory end-organs, such as Meissner and Pacinian corpuscles and others. These structures detect sustained pressure, velocity, and vibrations, thereby facilitating nuanced environmental in...

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https://pubmed.ncbi.nlm.nih.gov/40945511/?

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## The coarse mental map of the breast is anchored on the nipple

Greenspon

1 86 min words

**TACTILE ACUITY** 

Summary: Touch plays a key role in our perception of our body and shapes our interactions with the world, from the objects we manipulate to the people we touch. While the tactile sensibility of the hand has been extensively characterized, much less is known about touch on other parts of the body. Despite the...

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# Haptic Feedback Systems for Lower-Limb Prosthetic Applications: A Review of System Design, User Experience, and Clinical Insights

Runar 1 65 TACTILE ACUITY words

**Summary:** Systems presenting haptic information have emerged as an important technological advance in assisting individuals with sensory impairments or amputations, where the aim is to enhance sensory perception or provide sensory substitution through tactile feedback. These systems provide information on lim...

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/41007234/?

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# Gradient Porous Flexible Pressure Sensors with the Relay Effect for High-Accuracy Braille-to-Speech Recognition



**Summary:** The development of highly sensitive, wide linear-range flexible pressure sensors is crucial for practical applications in human-computer interaction, physiological signal detection, and motion monitoring. However, traditional flexible pressure sensors often suffer from limited compressibility in the...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40854103/?

## Individual and community level factors influencing modern contraceptive use among women of reproductive age in South Africa: a multilevel analysis







Summary: CONCLUSION: Sensory disability status influenced women's contraceptive behaviour in South Africa. Current family planning interventions should target women with sensory disabilities by prioritising accessible communication methods (e.g., braille, sign language), disability awareness training for hea...

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/40855574/?

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## **Explosion-powered eversible tactile displays**











Summary: High-resolution electronic tactile displays stand to transform haptics for remote machine operation, virtual reality, and digital information access for people who are blind or visually impaired. Yet, increasing the resolution of these displays requires increasing the number of individually addressa...

#### 

https://pubmed.ncbi.nlm.nih.gov/40864730/?

## A Biomimetic Fiber-Entangled Permeable Electronic Skin for Strain-Insensitive and High-Resolution Tactile Sensing



1 57 min words

Summary: Electronic skins (e-skins) incorporating island architectures represent a promising platform for strain-insensitive tactile sensing by mechanically decoupling sensing units from deformations. However, conventional island designs encounter stress concentration issues caused by inherent modulus mismat...

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## **High-Density Tactile Sensor Array for Sub-Millimeter Texture** Recognition



Min 1 64
Zhang min words

BRAILLE

Summary: High-density tactile sensor arrays that replicate human touch could restore texture perception in paralyzed individuals. However, conventional tactile sensor arrays face inherent trade-offs between spatial resolution, sensitivity, and crosstalk suppression due to microstructure size limitations and ...

#### 

https://pubmed.ncbi.nlm.nih.gov/40871941/?

# A Diachronic Investigation of the Change in Form and Formational-Semantic Systematicity of the Chinese Sign Language Lexicon



**Summary:** It has been argued in previous research that several competing pressures guide the directions of language evolution (economy vs. redundancy; arbitrariness vs. systematicity). For sign languages, however, the effects of competing pressures on their change of lexical systems remain largely unclear. In...

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## Wireless Electrotactile System with Hydrogel-Based Electrodes for Conformal Tactile Interaction



**Summary:** A wireless epidermal electrotactile interface is demonstrated through integration of skin-conformal electrodes and flexible circuitry, addressing existing limitations in haptic technology caused by mechanical mismatch and system-level integration challenges. This electrotactile system achieves low s...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40891563/?

## Beyond access: rethinking assistive technology for individuals with visual impairments in Türkiye

Önder

1 55 min words



Summary: CONCLUSION: Despite demonstrating adaptability, individuals with VI in Türkiye face significant structural barriers to equitable AT access. Informal learning limited public support, and a lack of locally adapted tools contribute to digital exclusion. A rightsbased approach-emphasizing inclusive fun...

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## High prevalence of bacterial STI, anal HPV, cytological abnormalities and anal lesions among MSM in Togo, 2021: a baseline analysis of the ANRS I MIE 12,400/DepIST-H cohort



1 42 min words





Summary: CONCLUSIONS: These findings emphasize the high prevalence of STIs among MSM and confirm the unusual distribution of HPV types in West Africa, with HPV35 being highly prevalent. A national strategy regarding STI screening and HPV vaccination in this key population is needed.

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41013315/?

## Development and Assessment of a Novel Audiosensory Performance Method for Improving the Oral Health of Visually Impaired Children



**Summary:** This study evaluated the effectiveness of an audiosensory performance method in enhancing oral health knowledge and status among visually impaired children aged 6-12 years in the National Capital Region (NCR), Delhi. An interventional study design was used, involving 251 participants equally divided...

#### 

https://pubmed.ncbi.nlm.nih.gov/41041413/?

## A Comprehensive Evaluation of Consumer Trends and the **Bioactive Content of Extra Virgin Olive Oil: Comparative Insights into Trademarked and Local Products**









TDCS TACS TRNS

Summary: This multidisciplinary comparative study investigates consumption patterns, health-related properties, and quality attributes of trademarked and local extra virgin olive oil (EVOO) samples. It highlights the importance of localization in promoting agricultural sustainability, strengthening regional ...

#### 

https://pubmed.ncbi.nlm.nih.gov/41097552/?

## **Effects of Cerebellar tACS With Gamma Band on Basketball Shooting Skills: A Single-Blind, Randomized Controlled Trial** in College Students With Basketball Experience









Summary: CONCLUSIONS: Our results indicate that 70 Hz tACS over the cerebellum may improve basketball shooting skills. These results provide valuable insights into the practical application of tACS in sports. I The purpose of this study was to determine the effects of cerebellar tACS on basketball shooting s...

#### **⊗** Read full article:

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## Use of a Vertical Traction Device in the Management of an **Open Abdomen: A Case Report**







TDCS TACS TRNS

**Summary:** A laparostomy procedure, a critical intervention frequently employed in both trauma and non-trauma patients, is a key component of damage control resuscitation. The use of a vertical traction device (VTD), specifically Fasciotens® Abdomen (FTA), is a relatively novel technology that prevents fascial...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41098301/?

## A Systematic Review of Reporting Adverse Effects **Associated With Transcranial Direct Current Stimulation in Chronic Pain**

Daniela-Viorica
Mosoiu

1 2025-10-16 min 46 words

TDCS TACS TRNS

Summary: CONCLUSIONS: In the present form of reporting AEs of tDCS in clinical studies involving patients with chronic pain, this procedure seems to be safe. Nevertheless, we identified diverse modalities of reporting and assessing AEs, which should raise the need for a standardized procedure in this domain.

#### **⊗** Read full article:

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## **Therapeutic Strategies for Patient Safety**



1 67 min words



TDCS TACS TRNS

Summary: CONCLUSIONS: The development of a health system based on moral and ethical values and oriented toward increasing the quality of life through therapeutic strategies and measures to ensure patient safety, a holistic approach to the patient and the disease, and the development of personalized therapies...

#### 

https://pubmed.ncbi.nlm.nih.gov/41099742/?

## Transcranial direct current stimulation (tDCS) for cognitive impairment in schizophrenia: A systematic review and metaanalysis of randomized controlled trials

Roberto Rodriguez
Jimenez

1

46

words

TDCS TACS TRNS

Summary: CONCLUSIONS: tDCS shows domain-specific potential for cognitive enhancement in schizophrenia, particularly in verbal learning. However, the small effect sizes, high heterogeneity, and limited methodological rigor of included trials warrant cautious interpretation. Future research should emphasize st...

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## Cortical modulation by exogenous electric fields is consistent with electric dipoles

Maria V Sanchez-

1 65 words

TDCS TACS TRNS

Summary: Cortical activity can be modulated by endogenous and exogenous electric fields (EFs). Recent experimental and computational data suggested that endogenous EFmediated effects are compatible with electric dipoles, which contribute to the synchronization of neighboring cortical columns. Consistently, ...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41101621/?

## A deep learning approach to artifact removal in Transcranial **Electrical Stimulation: From shallow methods to deep neural** networks and state space models

Aitor
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Summary: Transcranial Electrical Stimulation (tES) is a non-invasive neuromodulation technique that generates artifacts in simultaneous EEG recordings, hindering brain activity analysis. This study analyzes Machine Learning (ML) methods for tES noise artifact removal across three stimulation types: tDCS, tAC...

#### **⊗** Read full article:

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## Diffusion trajectory of atypical morphological development in autism spectrum disorder



1 2025-10-16 min 68

TDCS TACS TRNS

Summary: Brain development from childhood through adolescence is crucial for understanding autism spectrum disorder (ASD). Yet how functional networks regulate developmental changes in brain morphology remains unclear. Here, we analyzed gray matter volume (GMV) and functional connectivity (FC) in 301 individ...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41102402/?

### Primary stabbing headache in a tertiary headache centre



1 2025-10-16 min 58 words



TDCS TACS TRNS

Summary: INTRODUCTION: Primary stabbing headache (PSH) is a short-lasting head pain occurring spontaneously in the absence of underlying structural causes. Although it is a frequent disorder, with a reported lifetime prevalence of 35.2% in the general population, its pathophysiological underpinnings remain i...

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https://pubmed.ncbi.nlm.nih.gov/41102620/?

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## The distinct functions of working memory and intelligence in model-based and model-free reinforcement learning





NATURE NEUROSCIENCE SUBJECTS



https://www.nature.com/articles/s41539-025-00363-w

## The nature of the relation between mental well-being and illbeing



**Read full article:** 

https://www.nature.com/articles/s41562-025-02319-x

# Exploring the relationship between somatosensory-evoked potentials, resting-state theta power, and acute balance performance



https://www.nature.com/articles/s41598-025-23878-z

## Using noise to distinguish between system and observer effects in multimodal neuroimaging

Milan 1 196
Brázdil min words

FRONTIERS COMPUTATIONAL NEUROSCIENCE

Summary: IntroductionIt has become increasingly common to record brain activity simultaneously at more than one spatiotemporal scale. Here, we address a central question raised by such cross-scale datasets: do they reflect the same underlying dynamics observed in different ways, or different dynamics observe...

https://www.frontiersin.org/articles/10.3389/fncom.2025.1693279

## Advancing epileptic seizure recognition through bidirectional LSTM networks



Sanaa Al-Marzouki 1 273 min 273 words



FRONTIERS COMPUTATIONAL NEUROSCIENCE

Summary: Seizure detection in a timely and accurate manner remains a primary challenge in clinical neurology, affecting diagnosis planning and patient management. Most of the traditional methods rely on feature extraction and traditional machine learning techniques, which are not efficient in capturing the d...

https://www.frontiersin.org/articles/10.3389/fncom.2025.1668358

## Nicotine and neuronal nicotinic acetylcholine receptors: unraveling the mechanisms of nicotine addiction



FRONTIERS NEUROSCIENCE

Summary: Nicotine, recognized as the principal addictive component in tobacco, is mechanistically linked to its interaction with neuronal nicotinic acetylcholine receptors (nAChRs). nAChRs are ligand-gated ion channels composed of five transmembrane subunits, with the α4β2 receptor subtype being the most com...

#### 

https://www.frontiersin.org/articles/10.3389/fnins.2025.1670883

## Made A Video Media Player that Plays Multi-Track Audio with **Python**







REDDIT PYTHON

Summary: <!-- SC\_OFF --><div class="md"><h1>Crusty Media Player</h1> I made a media player that was built to be able to take Multi-Track Video Files (ex: If you clip Recordings with separate Audio Tracks like System Audio and Microphone Audio) and give you the ability to play them back with both tracks sy...

### 

https://www.reddit.com/r/Python/comments/108pn4t/made a video media player that plays multitrack/

#### Meow.camera



**Summary:** Article URL: <a href="https://meow.camera/">https://meow.camera/</a> Comments URL: <a href="https://news.ycombinator.com/item?" id=45613047">https://news.ycombinator.com/item?id=45613047</a> Points: 5 # Comments: 0

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https://meow.camera/

# Foundation Model for Advancing Healthcare: Challenges, Opportunities and Future Directions



**Summary:** Foundation model, trained on a diverse range of data and adaptable to a myriad of tasks, is advancing healthcare. It fosters the development of healthcare artificial intelligence (AI) models tailored to the intricacies of the medical field, bridging the gap between limited AI models and the varied n...

**Read full article:** 

## **Data- and Physics-Driven Deep Learning Based Reconstruction for Fast MRI: Fundamentals and** Methodologies

1 151 min words

REVIEWS BIOMEDICAL ENGINEERING

Summary: Magnetic Resonance Imaging (MRI) is a pivotal clinical diagnostic tool, yet its extended scanning times often compromise patient comfort and image quality, especially in volumetric, temporal and quantitative scans. This review elucidates recent advances in MRI acceleration via data and physics-drive...

**⊗** Read full article:

http://ieeexplore.ieee.org/document/10729663

## **Artificial General Intelligence for Medical Imaging Analysis**

1 159 min words





REVIEWS BIOMEDICAL ENGINEERING

Summary: Large-scale Artificial General Intelligence (AGI) models, including Large Language Models (LLMs) such as ChatGPT/GPT-4, have achieved unprecedented success in a variety of general domain tasks. Yet, when applied directly to specialized domains like medical imaging, which require in-depth expertise, ...

## **Earable Multimodal Sensing and Stimulation: A Prospective Toward Unobtrusive Closed-Loop Biofeedback**





1 2024-11-29 words REVIEWS BIOMEDICAL ENGINEERING

Summary: The human ear has emerged as a bidirectional gateway to the brain's and body's signals. Recent advances in around-the-ear and in-ear sensors have enabled the assessment of biomarkers and physiomarkers derived from brain and cardiac activity using ear-electroencephalography (ear-EEG), photoplethysmog...

http://ieeexplore.ieee.org/document/10771694

## **Editorial: Harnessing Reviews to Advance Biomedical Engineering's New Horizons**





2025-01-28 min REVIEWS BIOMEDICAL ENGINEERING

http://ieeexplore.ieee.org/document/10856220

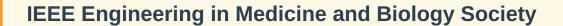
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#### **Front Cover**



#### 

## ReUselt: Synthesizing Reusable Al Agent Workflows for Web **Automation**

Yimeng Liu, Misha Sra, Jeevana Priya Inala, Chenglong Wang

1 2025-10-17 min

150 words

ARXIV CS HC

**Summary:** arXiv:2510.14308v1 Announce Type: new Abstract: Al-powered web agents have the potential to automate repetitive tasks, such as form filling, information retrieval, and scheduling, but they struggle to reliably execute these tasks without human intervention, requiring users to provide detailed guida...

https://arxiv.org/abs/2510.14308

## **GenLARP: Enabling Immersive Live Action Role-Play through LLM-Generated Worlds and Characters**

Yichen Yu, Yifan Jiang, Mandy Lui, Qiao





ARXIV CS HC

Summary: arXiv:2510.14277v1 Announce Type: new Abstract: We introduce GenLARP, a virtual reality (VR) system that transforms personalized stories into immersive live action role-playing (LARP) experiences. GenLARP enables users to act as both creators and players, allowing them to design characters based on...

## **TapNav: Adaptive Spatiotactile Screen Readers for Tactually Guided Touchscreen Interactions for Blind and Low Vision** People

Ricardo Gonzalez, Fannie Liu, Blair MacIntyre, David

1 167 min words

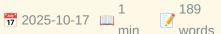
ARXIV CS HC

Summary: arXiv:2510.14267v1 Announce Type: new Abstract: Screen readers are audiobased software that Blind and Low Vision (BLV) people use to interact with computing devices, such as tablets and smartphones. Although this technology has significantly improved the accessibility of touchscreen devices, the s...

https://arxiv.org/abs/2510.14267

## **VisAider: Al-Assisted Context-Aware Visualization Support** for Data Presentations

Kentaro Takahira, Yuki Ueno





**ARXIV CS HC** 

Summary: arXiv:2510.14247v1 Announce Type: new Abstract: Effective real-time data presentation is essential in small-group interactive contexts, where discussions evolve dynamically and presenters must adapt visualizations to shifting audience interests. However, most existing interactive visualization syst...

## **Understanding Data Usage when Making High-Stakes Frontline Decisions in Homelessness Services**

Teale W. Masrani, Geoffrey Messier, Amy Voida, Gina Dimitropoulos, Helen Ai

2025-10-17

1 193 ARXIV CS HC words

Summary: arXiv:2510.14141v1 Announce Type: new Abstract: Frontline staff of emergency shelters face challenges such as vicarious trauma, compassion fatigue, and burnout. The technology they use is often not designed for their unique needs, and can feel burdensome on top of their already cognitively and emot...

https://arxiv.org/abs/2510.14141

## Reversing the Lens: Using Explainable AI to Understand **Human Expertise**

Roussel Rahman, Aashwin Ananda Mishra, Wan-Lin
Hu

1
2025-10-17
min
words

ARXIV CS HC

**Summary:** arXiv:2510.13814v1 Announce Type: new Abstract: Both humans and machine learning models learn from experience, particularly in safety- and reliability-critical domains. While psychology seeks to understand human cognition, the field of Explainable AI (XAI) develops methods to interpret machine lear...

**⊗** Read full article:

# Puzzlegram: a Serious Game Designed for the Elderly in Group Settings



**Summary:** arXiv:2510.13813v1 Announce Type: new Abstract: An original serious game prototype named 'Puzzlegram' is created for the elderly demographic in group settings as the target players. Puzzlegram is precisely designed to accentuate memory, auditory interaction as well as haptic response to visual sign...

# MindBenchAI: An Actionable Platform to Evaluate the Profile and Performance of Large Language Models in a Mental Healthcare Context

Bridget Dwyer, Matthew Flathers, Akane Sano, Allison Dempsey, Andrea Cipriani, Asim H. Gazi, Carla Gorban, Carolyn I. Rodriguez, Charles Stromeyer IV, Darlene King, Eden Rozenblit, Gillian Strudwick, Jake Linardon, Jiaee Cheong, Joseph Firth, Julian Herpertz, Julian Schwarz, Margaret Emerson, Martin P. Paulus, Michelle Patriquin, Yining Hua, Soumya Choudhary, Steven Siddals, Laura Ospina Pinillos, Jason Bantjes, Steven Scheuller, Xuhai Xu, Ken Duckworth, Daniel H. Gillison, Michael Wood,



**Summary:** arXiv:2510.13812v1 Announce Type: new Abstract: Individuals are increasingly utilizing large language model (LLM)based tools for mental health guidance and crisis support in place of human experts. While AI technology has great potential to improve health outcomes, insufficient empirical evidence e...

John Torous

# **Generative AI in Heritage Practice: Improving the Accessibility of Heritage Guidance**

Jessica Witte, Edmund Lee, Lisa Brausem, Verity Shillabeer, Chiara Bonacchi

2025-10-17

1 159 ARXIV CS HC words

Summary: arXiv:2510.13811v1 Announce Type: new Abstract: This paper discusses the potential for integrating Generative Artificial Intelligence (GenAI) into professional heritage practice with the aim of enhancing the accessibility of public-facing guidance documents. We developed HAZEL, a GenAI chatbot fine...

https://arxiv.org/abs/2510.13811

# **Choreographing Trash Cans: On Speculative Futures of Weak Robots in Public Spaces**

Minja Axelsson, Lea Luka

1
2025-10-17
words

ARXIV CS HC

Summary: arXiv:2510.13810v1 Announce Type: new Abstract: Delivering groceries or cleaning airports, mobile robots exist in public spaces. While these examples showcase robots that execute tasks, this paper explores mobile robots that encourage posthuman collaboration rather than managing environments indepe...

Read full article:

# Semantic representations emerge in biologically inspired ensembles of cross-supervising neural networks

Roy Urbach, Elad
Schneidman

1
2025-10-17
words

ARXIV QBIO NC

Summary: arXiv:2510.14486v1 Announce Type: new Abstract: Brains learn to represent information from a large set of stimuli, typically by weak supervision. Unsupervised learning is therefore a natural approach for exploring the design of biological neural networks and their computations. Accordingly, redunda...

https://arxiv.org/abs/2510.14486

# Joint encoding of "what" and "when" predictions through error-modulated plasticity in reservoir spiking networks

Yohei Yamada, Zenas C. Chao

1 245 min words

**ARXIV QBIO NC** 

Summary: arXiv:2510.14382v1 Announce Type: new Abstract: The brain understands the external world through an internal model that generates predictions and refines them based on prediction errors. A complete prediction specifies what will happen, when it will happen, and with what probability, which we refer...

# **Sensorimotor Contingencies and The Sensorimotor Approach to Cognition**

Denizhan
Pak

1
2025-10-17

| min | 85
| words

Summary: arXiv:2510.14227v1 Announce Type: new Abstract: 4E views of cognition seek to replace many of the long-held assumptions of tra- ditional cognitive science. One of the most radical shifts is the rejection of the sandwich model of cognition [8], which holds that mental processes are located be- tween...

https://arxiv.org/abs/2510.14227

## **Using Information Geometry to Characterize Higher-Order** Interactions in EEG

Eric Albers, Paul Marriott, Masami Tatsuno

1 217 min words

**ARXIV QBIO NC** 

**Summary:** arXiv:2510.14188v1 Announce Type: new Abstract: In neuroscience, methods from information geometry (IG) have been successfully applied in the modelling of binary vectors from spike train data, using the orthogonal decomposition of the Kullback-Leibler divergence and mutual information to isolate di...

Read full article:

## Bayes or Heisenberg: Who(se) Rules?

Volker Tresp Hang Li, Federico Harjes, Yunpu

1 2025-10-17 min 86 words

ARXIV QBIO NC

**Summary:** arXiv:2510.13894v1 Announce Type: new Abstract: Although quantum systems are generally described by quantum state vectors, we show that in certain cases their measurement processes can be reformulated as probabilistic equations expressed in terms of probabilistic state vectors. These probabilistic ...

https://arxiv.org/abs/2510.13894

# Large Language Model Agents Enable Autonomous Design and Image Analysis of Microwell Microfluidics

Dinh-Nguyen Nguyen, Sadia Shakil, Raymond Kai-Yu Tong, Ngoc-Duy

1 2025-10-17 min

241 words

ARXIV QBIO NC

**Summary:** arXiv:2510.13883v1 Announce Type: new Abstract: Microwell microfluidics has been utilized for single-cell analysis to reveal heterogeneity in gene expression, signaling pathways, and phenotypic responses for identifying rare cell types, understanding disease progression, and developing more precise...

**S** Read full article:

### **Embodiment in multimodal large language models**

Akila Kadambi, Lisa Aziz-Zadeh, Antonio Damasio, Marco Iacoboni, Srini Narayanan

2025-10-17



Summary: arXiv:2510.13845v1 Announce Type: new Abstract: Multimodal Large Language Models (MLLMs) have demonstrated extraordinary progress in bridging textual and visual inputs. However, MLLMs still face challenges in situated physical and social interactions in sensorally rich, multimodal and real-world se...

https://arxiv.org/abs/2510.13845

# **Hybrid Deep Learning Approaches for Classifying Autism** from Brain MRI





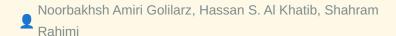




**ARXIV QBIO NC** 

Summary: arXiv:2510.13841v1 Announce Type: new Abstract: Autism spectrum disorder (ASD) is most often diagnosed using behavioral evaluations, which can vary between clinicians. Brain imaging, combined with machine learning, may help identify more objective patterns linked to ASD. This project used magnetic ...

# Towards Neurocognitive-Inspired Intelligence: From Al's Structural Mimicry to Human-Like Functional Cognition

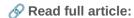






ARXIV QBIO NC

**Summary:** arXiv:2510.13826v1 Announce Type: new Abstract: Artificial intelligence has advanced significantly through deep learning, reinforcement learning, and large language and vision models. However, these systems often remain task specific, struggle to adapt to changing conditions, and cannot generalize ...



# A Two-Feature Quantitative EEG Index of Pediatric Epilepsy Severity: External Pre-Validation on CHB-MIT and Roadmap to Dravet Cohorts

Khartik Uppalapati, Bora Yimenicioglu, Shakeel Abdulkareem, Bhavya Uppalapati, Viraj Kamath, Adan Eftekhari, Pranav Ayyappan







ARXIV QBIO NC

Summary: arXiv:2510.13815v1 Announce Type: new Abstract: Objective biomarkers for staging pediatric epileptic encephalopathies are scarce. We revisited a large open repository -- the CHB-MIT Scalp EEG Database, 22 subjects aged 1.5-19 y recorded at 256 Hz under the 10-20 montage -- to derive and validate a ...



https://arxiv.org/abs/2510.13815

# Activin A protects against lipopolysaccharide/TNF-α induced damage of dopaminergic neurons both in vivo and in vitro by regulating mitochondrial fusion





NEUROSCIENCE JOURNAL

Summary: Publication date: 10 November 2025<b>Source:</b> Neuroscience, Volume 587Author(s): Yue Zhang, Shuxiang Tian, Mingguang Niu, Han Yang, Lulu Liu, Yuyang Kang, Yanyan Yin



https://www.sciencedirect.com/science/article/pii/S030645222500973X?dgcid=rss sd all

# C9orf72 related poly-Glycine-Alanine promotes tau phosphorylation and cell death via ERK1/2 interaction in cellular models



NEUROSCIENCE JOURNAL

Summary: Publication date: 10 November 2025<b>Source:</b> Neuroscience, Volume 587Author(s): Jiahan Zhuang, Zixuan Zhang, Hongfu Jin, Ji Qi, Yuanyuan Chen, Lin Ding, Chenglai Fu, Weiwei Cheng

https://www.sciencedirect.com/science/article/pii/S0306452225009832?dgcid=rss\_sd\_all

# Assessment of elephant claustrum by combined histological analysis and high-resolution micro-CT



NEUROSCIENCE JOURNAL

**Summary:** Publication date: 10 November 2025<b>Source:</b> Neuroscience, Volume 587Author(s): Chao Fang, Anne Schnurpfeil, Lennart Eigen, Olivia Heise, Tabea Pottek, Johannes Alkofer, Thomas Hildebrandt, Tim Salditt, Robert K. Naumann, Michael Brecht

https://www.sciencedirect.com/science/article/pii/S0306452225009741?dqcid=rss sd all

# Effect of <em>Origanum majorana</em> tea on oxidative stress biomarkers in Parkinson's disease: a randomized placebo-controlled pilot study



NEUROSCIENCE JOURNAL

Summary: Publication date: 10 November 2025<b>Source:</b> Neuroscience, Volume 587Author(s): Chbili Chahra, Mrad Sawssen, Hassine Anis, Naija Salma, Nouira Manel, Ben Amor Sana, Ben Fredj Maha

https://www.sciencedirect.com/science/article/pii/S0306452225009777?dgcid=rss\_sd\_all

# The Smarce1 subunit of the BAF complex performs distinct, stage-specific functions during zebrafish retinal development



**NEUROSCIENCE JOURNAL** 

**Summary:** Publication date: 10 November 2025<b>Source:</b> Neuroscience, Volume 587Author(s): Laura Ramírez, Denhí Schnabel, Flavio R. Zolessi, Hilda Lomelí

**Read full article:** 

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## Free the Internet: The Tor Project's annual fundraiser

1 2 2 HACKER NEWS

Summary: <a href="https://news.ycombinator.com/item?id=45613246">Comments</a>

https://blog.torproject.org/2025-fundraiser-donations-matched/

## Next steps for BPF support in the GNU toolchain

**Summary:** Article URL: <a href="https://lwn.net/Articles/1039827/">https://lwn.net/Articles/1039827/">https://lwn.net/Articles/1039827/</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45612987">https://news.ycombinator.com/item?id=45612987</a> Points: 4 # Comments: 0

**⊗** Read full article:

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# Interaction of sortilin with apolipoprotein E3 enables neurons to use long-chain fatty acids as alternative metabolic fuel



**Read full article:** 

https://www.nature.com/articles/s42255-025-01389-5

# Thalamic regulation of reinforcement learning strategies across prefrontal-striatal networks



https://www.nature.com/articles/s41467-025-63995-x

# The neural basis for uncertainty processing in hierarchical decision making



https://www.nature.com/articles/s41467-025-63994-v

# Differential synaptic depression mediates the therapeutic effect of deep brain stimulation

Guohong
Cui

Guohong

1

Words

NATURE NEUROSCIENCE

Summary: Nature Neuroscience, Published online: 16 October 2025; <a href="https://"><a href="https://"></a> www.nature.com/articles/s41593-025-02088-w">doi:10.1038/s41593-025-02088-w</a></ p>The authors show that deep brain stimulation (DBS) inhibits local neural activity via differential suppression of glutamate and GABA release, ...

https://www.nature.com/articles/s41593-025-02088-w

# Leveraging neuroinformatics to understand cognitive phenotypes in elite athletes through systems neuroscience



Qi 152 min words



FRONTIERS NEUROINFORMATICS

Summary: IntroductionUnderstanding the cognitive phenotypes of elite athletes offers a unique perspective on the intricate interplay between neurological traits and highperformance behaviors. This study aligns with advancing neuroinformatics by proposing a novel framework designed to capture and analyze the...

Read full article:

https://www.frontiersin.org/articles/10.3389/fninf.2025.1557879

# Improving EEG classification of alcoholic and control subjects using DWT-CNN-BiGRU with various noise filtering techniques







FRONTIERS NEUROINFORMATICS

Summary: Electroencephalogram (EEG) signal analysis plays a vital role in diagnosing and monitoring alcoholism, where accurate classification of individuals into alcoholic and control groups is essential. However, the inherent noise and complexity of EEG signals pose significant challenges. This study invest...



https://www.frontiersin.org/articles/10.3389/fninf.2025.1618050

# Large language models can extract metadata for annotation of human neuroimaging publications









FRONTIERS NEUROINFORMATICS

Summary: We show that recent (mid-to-late 2024) commercial large language models (LLMs) are capable of good quality metadata extraction and annotation with very little work on the part of investigators for several exemplar real-world annotation tasks in the neuroimaging literature. We investigated the GPT-4o...



https://www.frontiersin.org/articles/10.3389/fninf.2025.1609077

# A correlation-based tool for quantifying membrane periodic skeleton associated periodicity

Hanne B. Rasmussen

1 156 min words

FRONTIERS NEUROINFORMATICS

Summary: IntroductionThe advent of super-resolution microscopy revealed the membraneassociated periodic skeleton (MPS), a specialized neuronal cytoskeletal structure composed of actin rings spaced 190 nm apart by two spectrin dimers. While numerous ion channels, cell adhesion molecules, and signaling protei...

https://www.frontiersin.org/articles/10.3389/fninf.2025.1628538

# **Gradient Porous Flexible Pressure Sensors with the Relay Effect for High-Accuracy Braille-to-Speech Recognition**



1 62 min words





BRAILLE

Summary: The development of highly sensitive, wide linear-range flexible pressure sensors is crucial for practical applications in human-computer interaction, physiological signal detection, and motion monitoring. However, traditional flexible pressure sensors often suffer from limited compressibility in the...

#### 

https://pubmed.ncbi.nlm.nih.gov/40854103/?

# Individual and community level factors influencing modern contraceptive use among women of reproductive age in South Africa: a multilevel analysis

Million 1 46
Phiri 2025-08-26 min words

Summary: CONCLUSION: Sensory disability status influenced women's contraceptive behaviour in South Africa. Current family planning interventions should target women with sensory disabilities by prioritising accessible communication methods (e.g., braille, sign language), disability awareness training for hea...

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## **Explosion-powered eversible tactile displays**

Robert F

1 64 min words

BRAILLE

Summary: High-resolution electronic tactile displays stand to transform haptics for remote machine operation, virtual reality, and digital information access for people who are blind or visually impaired. Yet, increasing the resolution of these displays requires increasing the number of individually addressa...

#### 

https://pubmed.ncbi.nlm.nih.gov/40864730/?

# A Biomimetic Fiber-Entangled Permeable Electronic Skin for Strain-Insensitive and High-Resolution Tactile Sensing









Summary: Electronic skins (e-skins) incorporating island architectures represent a promising platform for strain-insensitive tactile sensing by mechanically decoupling sensing units from deformations. However, conventional island designs encounter stress concentration issues caused by inherent modulus mismat...

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# **High-Density Tactile Sensor Array for Sub-Millimeter Texture** Recognition











Summary: High-density tactile sensor arrays that replicate human touch could restore texture perception in paralyzed individuals. However, conventional tactile sensor arrays face inherent trade-offs between spatial resolution, sensitivity, and crosstalk suppression due to microstructure size limitations and ...

#### 

https://pubmed.ncbi.nlm.nih.gov/40871941/?

# A Diachronic Investigation of the Change in Form and Formational-Semantic Systematicity of the Chinese Sign Language Lexicon



**Summary:** It has been argued in previous research that several competing pressures guide the directions of language evolution (economy vs. redundancy; arbitrariness vs. systematicity). For sign languages, however, the effects of competing pressures on their change of lexical systems remain largely unclear. In...

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# Wireless Electrotactile System with Hydrogel-Based Electrodes for Conformal Tactile Interaction



**Summary:** A wireless epidermal electrotactile interface is demonstrated through integration of skin-conformal electrodes and flexible circuitry, addressing existing limitations in haptic technology caused by mechanical mismatch and system-level integration challenges. This electrotactile system achieves low s...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40891563/?

# Beyond access: rethinking assistive technology for individuals with visual impairments in Türkiye





Summary: CONCLUSION: Despite demonstrating adaptability, individuals with VI in Türkiye face significant structural barriers to equitable AT access. Informal learning limited public support, and a lack of locally adapted tools contribute to digital exclusion. A rightsbased approach-emphasizing inclusive fun...

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# High prevalence of bacterial STI, anal HPV, cytological abnormalities and anal lesions among MSM in Togo, 2021: a baseline analysis of the ANRS I MIE 12,400/DepIST-H cohort









Summary: CONCLUSIONS: These findings emphasize the high prevalence of STIs among MSM and confirm the unusual distribution of HPV types in West Africa, with HPV35 being highly prevalent. A national strategy regarding STI screening and HPV vaccination in this key population is needed.

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41013315/?

# **Development and Assessment of a Novel Audiosensory** Performance Method for Improving the Oral Health of Visually **Impaired Children**



**Summary:** This study evaluated the effectiveness of an audiosensory performance method in enhancing oral health knowledge and status among visually impaired children aged 6-12 years in the National Capital Region (NCR), Delhi. An interventional study design was used, involving 251 participants equally divided...

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https://pubmed.ncbi.nlm.nih.gov/41041413/?

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# A time-frequency feature fusion-based deep learning network for SSVEP frequency recognition



1 62 min words





BRAIN COMPUTER INTERFACE

Summary: INTRODUCTION: Steady-state visual evoked potential (SSVEP) has emerged as a pivotal branch in brain-computer interfaces (BCIs) due to its high signal-to-noise ratio (SNR) and elevated information transfer rate (ITR). However, substantial inter-subject variability in electroencephalographic (EEG) sig...

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# Participant Engagement, Epistemic Injustice, and Early-Phase **Implanted Neural Device Research**









BRAIN COMPUTER INTERFACE

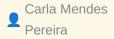
Summary: In recent years, participant engagement initiatives in research on implanted neural devices have significantly increased. However, there remains little consensus on the motivations, goals, and best practices for engagement efforts. Drawing on the concept of participatory epistemic injustice, we argu...

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# **Recommendations for Combining Brain-Computer Interface,** Motor Imagery, and Virtual Reality in Upper Limb Stroke **Rehabilitation: Qualitative Participatory Design Study**









BRAIN COMPUTER INTERFACE

Summary: CONCLUSIONS: Current results contribute to establishing clear guidelines on patient selection, task design, intervention structuring, motivation factors, and tailoring of sensory feedback. This framework presents a foundation for optimal implementation of VR-BCI-based interventions that associate MI...

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# An EEG-based Imagined Speech Database for comparing **Paradigm Designs**

Luz María Alonso-Valerdi 1 2025-10-15 min words

Summary: Brain-computer interfaces (BCIs) attempt to establish a connection between the human mind and a computer system. While recent computational advances continue to improve these interfaces, human factors have been overlooked. Factors such as fatigue and attention play a key role in brain signal modulat...

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# **Passive Brain-Computer Interface Using Textile-Based** Electroencephalography

Sujoy Ghosh Hajra

1 2025-10-16 min 65 words



BRAIN COMPUTER INTERFACE

Summary: Background: Passive brain-computer interface (pBCI) systems use a combination of electroencephalography (EEG) and machine learning (ML) to evaluate a user's cognitive and physiological state, with increasing applications in both clinical and non-clinical scenarios. pBCI systems have been limited by ...

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# TSFNet: Temporal-Spatial Fusion Network for Hybrid Brain-**Computer Interface**

Xiaoyang
Yuan

1
2025-10-16 min

63
BRAIN COMPUTER INTERFACE

Summary: Unimodal brain-computer interfaces (BCIs) often suffer from inherent limitations due to the characteristic of using single modalities. While hybrid BCIs combining electroencephalography (EEG) and functional near-infrared spectroscopy (fNIRS) offer complementary advantages, effectively integrating th...

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# **Motor Imagery Acquisition Paradigms: In the Search to Improve Classification Accuracy**



1 71 min words





BRAIN COMPUTER INTERFACE

Summary: In recent years, advances in medicine have been evident thanks to technological growth and interdisciplinary research, which has allowed the integration of knowledge, for example, of engineering into medical fields. This integration has generated developments and new methods that can be applied in a...

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# Investigation of the Prognostic Value of Novel Laboratory Indices in Patients with Sepsis in an Intensive Care Unit: A Retrospective Observational Study





BRAIN COMPUTER INTERFACE

**Summary:** Background: This study aimed to evaluate the prognostic value of some novel laboratory indices in intensive care unit (ICU)-hospitalized sepsis patients. Methods: This retrospective, observational study included 400 patients with sepsis. The indices studied were the C-reactive protein/albumin ratio ...

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+e462414

# Effectiveness of Electroencephalographic Neurofeedback for Parkinson's Disease: A Systematic Review and Meta-Analysis

Andrew Cooke

1 63 min words

BRAIN COMPUTER INTERFACE

Summary: Background: Electroencephalographic (EEG) neurofeedback training is gaining traction as a non-pharmacological treatment option for Parkinson's disease (PD). This paper reports the first pre-registered, integrated systematic review and meta-analysis of studies examining the effects of EEG neurofeedba...

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# A Novel Grasping Robot Control Method Using Motion **Execution BCI Combining Knowledge Reasoning**

Wang

1 68 min words



BRAIN COMPUTER INTERFACE

Summary: Recently, with the growing number of disabled people, brain-controlled technology offers a novel way to help patients restore their daily abilities. However, the conventional brain-controlled system based on the motion related task lacks intelligence in real-world environments. To address above prob...

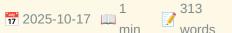
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## Made a simple encryption app with Python







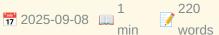
REDDIT PYTHON

Summary: <!-- SC OFF --><div class="md"><h1>PyLI</h1> Made a standalone GUI app that encrypts files locally, no middle-man interaction. Uses <strong>AES-256-GCM</strong> or <strong>ChaCha20-Poly1305</strong> for encryption and <strong>Argon2ID</strong> (or <strong>PBKDF2</strong> as fallback) for k...

#### **Read full article:**

https://www.reddit.com/r/Python/comments/108nomg/made\_a\_simple\_encryption\_app\_with\_python/

# **Electroencephalographic Functional Connectivity, Heartrate** Synchrony, and Eye Movements Reveal Distinct Components within Narrative Engagement and Immersion





COGNITIVE NEUROSCIENCE

Summary: Storytelling is a fundamental and universal human behavior, representing a vehicle for cultural information exchange throughout human history. In the present day, consumption of narrative audiovisual media is one of the most common recreational activities worldwide. Despite the importance and ubiqui...

### Read full article:

# **Object Ownership Processing in Peripersonal Space: An Electroencephalographic Study**

1 251 min words



COGNITIVE NEUROSCIENCE

Summary: A fundamental aspect of interacting with objects in the environment is the ability to distinguish between objects that can be directly acted upon in the peripersonal space (PPS) and those out of immediate reach in the extrapersonal space (EPS). Performing appropriate actions also requires integratin...

http://ieeexplore.ieee.org/document/11153352

# **Neural Signatures of Recollection Are Sensitive to Memory Quality and Specific Event Features**

1 243 min words





**COGNITIVE NEUROSCIENCE** 

Summary: Episodic memories reflect a bound representation of multimodal features that can be recollected with varying levels of precision. Recent fMRI investigations have demonstrated that the precision and content of information retrieved from memory engage a network of posterior medial-temporal and parieta...

Read full article:

# Transient and Sustained Neuromagnetic Representation of **Consonance and Dissonance in Harmonic Sequences**

1 244 min words

COGNITIVE NEUROSCIENCE

Summary: The perception of musical consonance/dissonance (C/D) relies on basic properties of the auditory system, and prior investigations have shown that C/D sounds elicit strongly divergent neurophysiological activity in human auditory cortex. However, studies are missing that assess transient (P1, N1, P2)...

http://ieeexplore.ieee.org/document/11153362

# An Emergentist Account of Language in the Brain—Seeking **Neural Synergies Behind Human Uniqueness**





COGNITIVE NEUROSCIENCE

**Summary:** Cognitive neuroscience has become increasingly open to views of human cognitive faculties as emergent properties—as higher-level products of synergies between brain structures handling qualitatively different functions. This new perspective mitigates claims that cognitive abilities are tied to local...

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# Impact of Transcutaneous Vagus Nerve Stimulation on Eventrelated Potentials during a Response Inhibition Task

1 157 min words

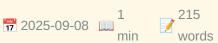
COGNITIVE NEUROSCIENCE

Summary: As an emerging neuromodulation technique, transcutaneous auricular vagus nerve stimulation (taVNS) has shown promise in enhancing cognitive abilities. The present study used a combination of the go/no-go task and the stop-signal task experimental paradigm to examine the cognitive effects of taVNS on...

http://ieeexplore.ieee.org/document/11153359

# Confidence and Insight into Working Memory Are Shaped by **Attention and Recent Performance**





**COGNITIVE NEUROSCIENCE** 

**Summary:** Working memory is capacity-limited, and our ability to access information from working memory is variable, but selective attention to working memory contents can improve performance. People are able to make introspective judgments regarding the quality of their memories, and these judgments are link...

Read full article:

# Perceptual Decoupling Underlies Internal Shielding Benefit during Switches between External and Internal Attention: **Evidence from Early Sensory Event-related Potential** Components







COGNITIVE NEUROSCIENCE

Summary: People need to often switch attention between external and internal sources of information, that is, external and internal attention, respectively. There has been a recent surge of research interest in this type of attentional flexibility, which has revealed that it is characterized by an asymmetric...



http://ieeexplore.ieee.org/document/11153351

# **Lexical and Information Structure Functions of Prosody and** Their Relevance for Spoken Communication: Evidence from **Psychometric and Electroencephalographic Data**







COGNITIVE NEUROSCIENCE

Summary: Prosody not only distinguishes "lexical" meaning but also plays a key role in information packaging by highlighting the most relevant constituent of the discourse, namely, "focus" information. The present study investigated the role of lexical and focus functions of prosody in the coherent interpret...



# Visuo-spatial functions mediate the association between cortical thickness of fronto-parietal areas and social processing abilities in congenital atypical development



NEUROIMAGE

**Summary:** Publication date: 1 November 2025<b>Source:</b> NeuroImage, Volume 321Author(s): Viola Oldrati, Elisabetta Ferrari, Niccolò Butti, Chiara Gagliardi, Romina Romaniello, Renato Borgatti, Denis Peruzzo, Cosimo Urgesi

https://www.sciencedirect.com/science/article/pii/S1053811925005154?dgcid=rss\_sd\_all

# Atlas-based analysis of diffusion imaging may predict efficacy of forelimb movement therapy for motor recovery in post-stroke rats



**NEUROIMAGE** 

Summary: Publication date: 1 November 2025<b>Source:</b> NeuroImage, Volume 321Author(s): Xinxin Zhao, Jingjing Ruan, Bo Li, Jiahui Cheng, Jianrong Xu, Yulian Zhu, Ce Li, Yan Zhou

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# Developmental changes in phonological awareness in Chinese-English bilingual children: An fNIRS longitudinal study





NEUROIMAGE

**Summary:** Publication date: 1 November 2025<b>Source:</b> NeuroImage, Volume 321Author(s): Yueh-Lin Li, Li-Ying Fan, Hsin-Chin Chen, Shiou-Yuan Chen, Ioulia Kovelman, Tai-Li Chou

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## Motor-related neural oscillations in mood disorders

1 min



NEUROIMAGE

**Summary:** Publication date: 1 November 2025<b>Source:</b> NeuroImage, Volume 321Author(s): Yi Xia, Xiaoqin Wang, Shujia Hu, Shuangyu Cai, Tingting Xiong, Junling Sheng, Rui Yan, Zhijian Yao, Qing Lu

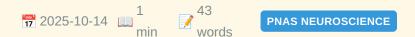
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# Spontaneous activity of astrocytes is a stochastic functional signal for memory consolidation

Gabriele LosiBeatrice VignoliRocco GranataAnnamaria LiaMicaela ZontaGabriele
SanseveroFrancesca PischeddaAngela ChiavegatoSpartaco SantiLorena ZentilinNicoletta BerardiGian
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Padova, Padova 35131, ItalycDepartment of Physics, University of Trento, Povo (TN) 38123,
ItalydDepartment of Cellular Computational and Integrative Biology, University of Trento, Povo (TN)
38123, ItalyeCenter for Nanotechnology Innovation (NEST- National Enterprise for nanoScience and

nanoTechnology), Scuola Normale Superiore, Pisa 56126, ItalyfPadova Neuroscience Center,
 University of Padova, Padova 35131, ItalygInstitute of Neuroscience, National Research Council, Pisa
 section, Pisa 56125, ItalyhInstitute of Molecular Genetics "Luigi Luca Cavalli-Sforza," National
 Research Council, Bologna 40100, ItalyiIRCSS- Scientific Institute for Research, Hospitalization and
 Healthcare Istituto Ortopedico Rizzoli, Bologna 40100, ItalyjInternational Centre for Genetic
 Engineering and Biotechnology, Padriciano (TS) 34149, ItalykDepartment of Neuroscience,
 Psychology, Drug Research and Child Health (NEUROFARBA), University of Florence, Florence
 50139, ItalylInstitute of Biophysics, National Research Council, Pisa 56126, Italy



**Summary:** Proceedings of the National Academy of Sciences, Volume 122, Issue 42, October 2025. <br/>
SignificanceLosi G., Vignoli B. et al. demonstrate that recurring, spontaneous intracellular Ca2+fluctuations in perisynaptic astrocytic processes [Ca2+microdomains (MDs)] are functional signals required for I...

#### 

https://www.pnas.org/doi/abs/10.1073/pnas.2500511122?af=R

# **Gradient Porous Flexible Pressure Sensors with the Relay** Effect for High-Accuracy Braille-to-Speech Recognition

Jianming 1 62
Xu min words

Summary: The development of highly sensitive, wide linear-range flexible pressure sensors is crucial for practical applications in human-computer interaction, physiological signal detection, and motion monitoring. However, traditional flexible pressure sensors often suffer from limited compressibility in the...

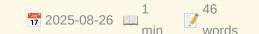
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# Individual and community level factors influencing modern contraceptive use among women of reproductive age in South Africa: a multilevel analysis









BRAILLE

Summary: CONCLUSION: Sensory disability status influenced women's contraceptive behaviour in South Africa. Current family planning interventions should target women with sensory disabilities by prioritising accessible communication methods (e.g., braille, sign language), disability awareness training for hea...

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### **Explosion-powered eversible tactile displays**







BRAILLE

Summary: High-resolution electronic tactile displays stand to transform haptics for remote machine operation, virtual reality, and digital information access for people who are blind or visually impaired. Yet, increasing the resolution of these displays requires increasing the number of individually addressa...

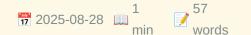
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# A Biomimetic Fiber-Entangled Permeable Electronic Skin for Strain-Insensitive and High-Resolution Tactile Sensing









BRAILLE

Summary: Electronic skins (e-skins) incorporating island architectures represent a promising platform for strain-insensitive tactile sensing by mechanically decoupling sensing units from deformations. However, conventional island designs encounter stress concentration issues caused by inherent modulus mismat...

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## **High-Density Tactile Sensor Array for Sub-Millimeter Texture** Recognition







BRAILLE

Summary: High-density tactile sensor arrays that replicate human touch could restore texture perception in paralyzed individuals. However, conventional tactile sensor arrays face inherent trade-offs between spatial resolution, sensitivity, and crosstalk suppression due to microstructure size limitations and ...

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## A Diachronic Investigation of the Change in Form and Formational-Semantic Systematicity of the Chinese Sign **Language Lexicon**









**Summary:** It has been argued in previous research that several competing pressures guide the directions of language evolution (economy vs. redundancy; arbitrariness vs. systematicity). For sign languages, however, the effects of competing pressures on their change of lexical systems remain largely unclear. In...

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## Wireless Electrotactile System with Hydrogel-Based **Electrodes for Conformal Tactile Interaction**









BRAILLE

**Summary:** A wireless epidermal electrotactile interface is demonstrated through integration of skin-conformal electrodes and flexible circuitry, addressing existing limitations in haptic technology caused by mechanical mismatch and system-level integration challenges. This electrotactile system achieves low s...

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## Beyond access: rethinking assistive technology for individuals with visual impairments in Türkiye







BRAILLE

Summary: CONCLUSION: Despite demonstrating adaptability, individuals with VI in Türkiye face significant structural barriers to equitable AT access. Informal learning limited public support, and a lack of locally adapted tools contribute to digital exclusion. A rightsbased approach-emphasizing inclusive fun...

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# High prevalence of bacterial STI, anal HPV, cytological abnormalities and anal lesions among MSM in Togo, 2021: a baseline analysis of the ANRS I MIE 12,400/DepIST-H cohort



**Summary:** CONCLUSIONS: These findings emphasize the high prevalence of STIs among MSM and confirm the unusual distribution of HPV types in West Africa, with HPV35 being highly prevalent. A national strategy regarding STI screening and HPV vaccination in this key population is needed.

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## Development and Assessment of a Novel Audiosensory Performance Method for Improving the Oral Health of Visually Impaired Children



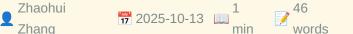
**Summary:** This study evaluated the effectiveness of an audiosensory performance method in enhancing oral health knowledge and status among visually impaired children aged 6-12 years in the National Capital Region (NCR), Delhi. An interventional study design was used, involving 251 participants equally divided...

#### 

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## Prefrontal activation in bipolar and unipolar depression patients in the letter fluency tasks and category fluency tasks: a functional near-infrared spectroscopy study









Summary: CONCLUSION: Our findings indicate that the LFT elicits more extensive prefrontal activation, with differential engagement of the VLPFC in BD compared to UD. These results suggest potential neuroimaging biomarkers for distinguishing between UD and BD, while also providing insights into the neural sub...

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## Neural predictors of hidden, persistent psychological states at work









Summary: Common workplace challenges such as feeling overwhelmed, burned out, or disengaged often remain hidden due to fear of judgment or social norms, contributing to rising mental health crises and organizational dysfunction. This study presents a brainbased framework for predicting these hidden and pers...

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## **Dose-Dependent Enhancement of Coordination through Multibrain Transcranial Stimulation: A fNIRS Hyperscanning** Study









**Summary:** Coordination serves as a fundamental driving force in the evolution of human society, and transcranial electrical stimulation (tES) is increasingly recognized for its ability to modulate human coordination. However, the neural mechanisms underlying coordination and whether tES positively influences ...

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## Functional connectivity in whole-brain and network analysis differentiates minimally conscious from unresponsive patients: a resting-state fNIRS study









Summary: CONCLUSION: fNIRS could effectively detect abnormal brain network functional connectivity in DOC patients and could provide valuable insights for differentiating MCS and VS/UWS patients.

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Predicting Individual Response to Acupuncture in Sensorineural Tinnitus Using Integrated Functional Near-Infrared Spectroscopy and Machine Learning: Protocol for a Model Development and Validation Study



**Summary:** CONCLUSION: This study represents the first attempt to integrate fNIRS detection with machine learning techniques for predicting acupuncture efficacy in SNT treatment. The methodology addresses several key challenges in acupuncture research through comprehensive data collection and advanced analytic...

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## Online Regulation of Task Difficulty based on Neuro- and Motor-feedback to improve engagement in Visual-motor Task





**Summary:** CONCLUSION: Our findings suggest that the proposed NMF system can enable online neural activity regulation in visual-motor tasks and achieve enhanced integration between cognitive and sensorimotor areas, with the potential to improve the rehabilitation training outcomes.

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## Effect of lower limb mirror visual feedback on cortical activation in healthy subjects: a self-controlled randomized trail











Summary: CONCLUSION: LLMVF increases neural activity in the sensory and motor related areas, indicating that LLMVF can promote more activation of brain functional areas, which verifies the top-down positive effect of LLMVF.

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## TSFNet: Temporal-Spatial Fusion Network for Hybrid Brain-Computer Interface



**Summary:** Unimodal brain-computer interfaces (BCIs) often suffer from inherent limitations due to the characteristic of using single modalities. While hybrid BCIs combining electroencephalography (EEG) and functional near-infrared spectroscopy (fNIRS) offer complementary advantages, effectively integrating th...

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Diagnostic Efficacy of Olfactory Function Test Using Functional Near-Infrared Spectroscopy with Machine Learning in Healthy Adults: A Prospective Diagnostic-Accuracy (Feasibility/Validation) Study in Healthy Adults with Algorithm Development



**Summary:** Background/Objectives: The YSK olfactory function (YOF) test is a culturally adapted psychophysical tool that assesses threshold, discrimination, and identification. This study evaluated whether functional near-infrared spectroscopy (fNIRS) synchronized with routine YOF testing, combined with machin...

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# Enhanced Activation in the Dorsolateral Prefrontal Cortex and Inferior Parietal Lobule During Recovery from Body Dissatisfaction



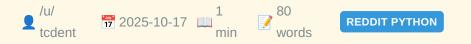
**Summary:** Previous studies have examined the neural mechanisms of body dissatisfaction. This study aimed to investigate the neural basis of recovery from body dissatisfaction. Sixty-seven young women participated in this study, engaging in a fat talk-a conversation known to induce body dissatisfaction-followe...

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# TOML is great, and after diving deep into designing a config format, here's why I think that's true



**Summary:** <!-- SC\_OFF --><div class="md">Developers have strong opinions about configuration formats. YAML advocates appreciate the clean look and minimal syntax. JSON supporters like the explicit structure and universal tooling. INI users value simplicity. Each choice involves tradeoffs, and those tradeof...

#### Read full article:

https://www.reddit.com/r/Python/comments/108ors4/toml\_is\_great\_and\_after\_diving\_deep\_into/

## [Project] doespythonhaveit: a semantic search engine for Python libraries

**Summary:** <!-- SC\_OFF --><div class="md">Hey folks! I've been working on an open-source project called <strong>doespythonhaveit</strong>, a <strong>semantic search engine for Python libraries</strong> powered by <code>FastAPI</code> and <code>sentence-transformers</code>. Basically, you can type som...

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https://www.reddit.com/r/Python/comments/1080g8o/ project\_doespythonhaveit\_a\_semantic\_search\_engine/

## Nvidia DGX Spark and Apple Mac Studio = 4x Faster LLM Inference with EXO 1.0

edelsohn 7 2025-10-16 min 13 words

**Summary:** Article URL: <a href="https://blog.exolabs.net/nvidia-dgx-spark/">https://blog.exolabs.net/nvidia-dgx-spark/</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45611912">https://news.ycombinator.com/item?id=45611912">https://news.ycombinator.com/item?id=45611912</a> Points: 34 # Comments: 12

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## Accelerating authoritarian dynamics: Assessment of democratic decline

andsoitis 7 2025-10-17 min 13 words HACKER NEWS

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# The impact of CSF-filled cavities on scalp EEG and its implications



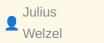
**Summary:** Previous studies have found electroencephalogram (EEG) amplitude and scalp topography differences between neurotypical and neurological/neurosurgical groups, being interpreted at the cognitive level. However, these comparisons are invariably accompanied by anatomical changes. Critical to EEG are the...

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## Motion-BIDS: an extension to the brain imaging data structure to organize motion data for reproducible research







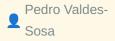
Summary: We present an extension to the Brain Imaging Data Structure (BIDS) for motion data. Motion data is frequently recorded alongside human brain imaging and electrophysiological data. The goal of Motion-BIDS is to make motion data interoperable across different laboratories and with other data modalitie...

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## One hundred years of EEG for brain and behaviour research







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## Freezing of gait in Parkinson's disease is related to imbalanced stopping-related cortical activity

Richard J A van

1 65 min words

OOSTENVELD ROBERT

Summary: Freezing of gait, characterized by involuntary interruptions of walking, is a debilitating motor symptom of Parkinson's disease that restricts people's autonomy. Previous brain imaging studies investigating the mechanisms underlying freezing were restricted to scan people in supine positions and yie...

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## The past, present, and future of the brain imaging data structure (BIDS)

Krzysztof J Gorgolewski 1 82 min words

OOSTENVELD ROBERT

Summary: The Brain Imaging Data Structure (BIDS) is a community-driven standard for the organization of data and metadata from a growing range of neuroscience modalities. This paper is meant as a history of how the standard has developed and grown over time. We outline the principles behind the project, the ...

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## Human cortical high-gamma power scales with movement rate in healthy participants and stroke survivors

Fanny Quandt

1 65 min words

OOSTENVELD ROBERT

Summary: Motor cortical high-gamma oscillations (60-90 Hz) occur at movement onset and are spatially focused over the contralateral primary motor cortex. Although high-gamma oscillations are widely recognized for their significance in human motor control, their precise function on a cortical level remains el...

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## NIRS-BIDS: Brain Imaging Data Structure Extended to Near-**Infrared Spectroscopy**



1 70 min words

OOSTENVELD ROBERT

Summary: Functional near-infrared spectroscopy (fNIRS) is an increasingly popular neuroimaging technique that measures cortical hemodynamic activity in a non-invasive and portable fashion. Although the fNIRS community has been successful in disseminating open-source processing tools and a standard file forma...

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https://pubmed.ncbi.nlm.nih.gov/39870674/?

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## Pseudonymisation of neuroimages and data protection: <em>Increasing access to data while retaining scientific utility</em>

Lyuba
Zehl

Zehl

Zo25-06-26 min

Zostenveld robert

Summary: For a number of years, facial features removal techniques such as 'defacing', 'skull stripping' and 'face masking/blurring', were considered adequate privacy preserving tools to openly share brain images. Scientifically, these measures were already a compromise between data protection requirements a...

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/40568426/?

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## Cycling on the Freeway: The perilous state of open-source neuroscience software

1 74 min words

OOSTENVELD ROBERT

Summary: Most scientists need software to perform their research (Barker et al., 2020; Carver et al., 2022; Hettrick, 2014; Hettrick et al., 2014; Switters & Osimo, 2019), and neuroscientists are no exception. Whether we work with reaction times, electrophysiological signals, or magnetic resonance imaging data, ...

#### Read full article:

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## Optimal configuration of on-scalp OPMs with fixed channel counts

Robert 1 69
Oostenveld min words

OOSTENVELD ROBERT

Summary: Recent technological developments have brought optically pumped magnetometers (OPMs) within reach of the larger neuroscientific community. The current state-of-the-art consists of whole-head systems that measure the magnetic field at >100 locations. OPM sensors can be constructed to measure the fiel...

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https://pubmed.ncbi.nlm.nih.gov/40800964/?

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### **Lightweight GAN for Restoring Blurred Images to Enhance** Citrus Detection



Pei 1 66 Wang words





**LOW VISION** 

Summary: Image blur is a major factor that degrades object detection in agricultural applications, particularly in orchards where crop occlusion, leaf movement, and camera shake frequently reduce image quality. This study proposed a lightweight generative adversarial network, AGG-DeblurGAN, to address non-un...

#### 

https://pubmed.ncbi.nlm.nih.gov/41095226/?

## Opportunistic Eye Disease Screening in Mazovia, Poland: **Lessons from a Local Government Program: "Good Vision for** Mazovians"







Summary: Background: Vision loss due to chronic eye diseases remains a significant public health challenge. Early detection through screening programs may reduce the burden of vision loss. This study aimed to assess the detection rate of eye diseases (glaucoma, AMD, and diabetic retinopathy), including those...

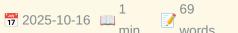
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## Interplay of Modifiable and Non-Modifiable Risk Factors for **Diabetes Mellitus in Saudi Adults**









LOW VISION

Summary: Background/Objectives: Diabetes Mellitus (DM) remains a critical public health issue in Saudi Arabia, shaped by complex interactions among genetic, lifestyle, and sociodemographic factors. This study explores interplay of modifiable and non-modifiable determinants of DM among Saudi adults. Methods: ...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41095670/?

## Which Physical Therapy Intervention Is Most Effective in **Reducing Secondary Lymphedema Associated with Breast Cancer? A Systematic Review and Network Meta-Analysis**







Summary: Background: Breast cancer-related lymphedema (BCRL) is a common complication that impairs function and quality of life (QoL). The comparative effectiveness of physical therapy interventions (PTIs) remains unclear. This systematic review and network meta-analysis (NMA) was conducted to identify the m...

#### **⊗** Read full article:

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## Visual Function Characteristics in <em>STXBP1</em> **Epileptic Encephalopathy Patients**







Summary: Background: The goal of the study was to describe the visual function characteristics of children with developmental epileptic encephalopathy resulting from mutations in the STXBP1 gene. Methods: The study included 26 consecutive patients from the Polish STXBP1 population (11 male and 16 female; mea...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41095919/?

## Fully Automated Segmentation of Cervical Spinal Cord in Sagittal MR Images Using Swin-Unet Architectures

Utku Şenol

1 67 min words



Summary: Background/Objectives: The spinal cord is a critical component of the central nervous system that transmits neural signals between the brain and the body's peripheral regions through its nerve roots. Despite being partially protected by the vertebral column, the spinal cord remains highly vulnerable...

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## **Monitoring Night-Time Activity Patterns of Laying Hens in** Response to Poultry Red Mite Infestations Using Night-Vision Cameras







LOW VISION

Summary: The poultry red mite (PRM) feeds on hens' blood at night, disrupting sleep, harming welfare, and reducing productivity. Effective control may lie in dynamic Integrated Pest Management (IPM), which relies on routine monitoring and adaptation to farm conditions. This study investigated how PRM infesta...

#### **Read full article:**

https://pubmed.ncbi.nlm.nih.gov/41096523/?

# Clinical Potential of Essential Oils: Cytotoxicity, Selectivity Index, and Efficacy for Combating Gram-Positive ESKAPE Pathogens



**Summary:** (1) Background: Essential oils (EOs) have emerged as promising antibacterial agents due to their broad-spectrum activity and low risk of resistance development. Therefore, this review aimed to assess the effectiveness of EOs against Gram-positive ESKAPE pathogens, and to evaluate their safety and to...

#### 

https://pubmed.ncbi.nlm.nih.gov/41097295/?

## **Artificial Intelligence-Enhanced Liquid Biopsy and Radiomics** in Early-Stage Lung Cancer Detection: A Precision Oncology **Paradigm**

Shivaram P Arunachalam

1 57 Low vision min words

Summary: CONCLUSION: The integration of AI with liquid biopsy and radiomics holds transformative potential for early lung cancer detection. This non-invasive, scalable, and individualized diagnostic paradigm could significantly reduce lung cancer mortality through timely and targeted interventions. As techno...

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/41097693/?

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## **One-Hot Multi-Level Leaky Integrate-and-Fire Spiking Neural Networks for Enhanced Accuracy-Latency Tradeoff**



1 65 min words



LOW VISION

Summary: Spiking neural networks (SNNs) hold significant promise as energy-efficient alternatives to conventional artificial neural networks (ANNs). However, SNNs require computations across multiple timesteps, resulting in increased latency, heightened energy consumption, and additional memory access overhe...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41098230/?

## The taste of trigeminal sensations: relation between taste, lingual tactile acuity, and spicy perception in patients with taste dysfunction

Thomas
Hummel

Thomas

Tactile Acuity

Thomas

Summary: In the oral cavity, oral stereognosis and chemesthesis refer to the abilities to recognize shapes and detect noxious substances, respectively, through various receptors distributed on the tongue. The absence of standardized methods to assess oral somatosensory perception has led to a lack of consens...

#### **⊗** Read full article:

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## **Measuring the Distribution of Tactile Acuity at the Index Finger and Thumb Fingertips**

Hiroyuki

1 75
min words

TACTILE ACUITY

Summary: In our day-to-day activities, we utilize not only the pads of our fingers but also the sides and hemispherical tips when manipulating objects. For teleoperation systems to replicate these real-life interactions, tactile sensation must be presented and distributed across the entire fingertip. Thus, u...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40526544/?

## Optimizing Vibrotactile Feedback for Sensory Substitution in the Thigh: Spatial Acuity and Frequency Characteristics

Leah R

Bent

1

2025-06-27

min

69

words



TACTILE ACUITY

**Summary:** Amputation of a lower limb not only affects mobility but also interferes with sensory feedback, leading to an elevated risk of falls among individuals living with amputation. Sensory substitution, achieved through tactile displays embedded in transfemoral prosthetic sockets, presents a promising non...

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## Directional vibro-tactile hazard warnings for drivers with vision impairments

Alex R

Bowers

1

80

min

words

TACTILE ACUITY

Summary: Vision impairment may delay responses to hazards when driving. In a proof-ofconcept driving simulator study, we evaluated a hazard warning device designed for vision impaired drivers. Three groups participated: 11 persons with central vision loss (CVL; median age 60 years), 12 with homonymous field...

#### 

https://pubmed.ncbi.nlm.nih.gov/40601880/?

## Sensitivity and vagal reactivity to C-tactile-mediated affective touch in mild cognitive impairment due to Alzheimer's disease







Summary: BackgroundC-tactile (CT) afferents preferentially activate in response to slow caress-like touch, evoking a diffuse pleasant sensation and promoting autonomic regulation. According to Braak's classic model, the neurodegenerative process in Alzheimer's disease (AD) only affects somatosensory cortices...

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## Differences in tactile grid localization accuracy between people with back pain compared to individuals without pain









**Summary:** OBJECTIVES: The study aimed to investigate the grid localization test (GLT) between patients with lower back pain and those without back pain.

#### 

https://pubmed.ncbi.nlm.nih.gov/40850311/?

## **Eye Drop Instillation Success and Hand Function in Adults** with Glaucoma: A Pilot Study

Paula Anne Newman-Casev

1 74 TACTILE ACUITY words

Summary: CONCLUSIONS: Despite hand function deficits, in this exploratory pilot study, adults with glaucoma demonstrated eye drop instillation success comparable to those without glaucoma, though with higher rates of bottle tip contact with the eye, skin, or eyelashes, suggesting an increased risk of potenti...

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## Functional evidence for early origin of tactile acuity in the vertebrate somatosensory system

Sviatoslav N Bagriantsev

1 2025-09-13 min 58 words

TACTILE ACUITY

Summary: Mammals and reptiles possess a sophisticated somatosensory system for precise tactile discrimination via mechanosensory end-organs, such as Meissner and Pacinian corpuscles and others. These structures detect sustained pressure, velocity, and vibrations, thereby facilitating nuanced environmental in...

#### 

https://pubmed.ncbi.nlm.nih.gov/40945511/?

## The coarse mental map of the breast is anchored on the nipple

Charles M

Greenspon

1

86

words

TACTILE ACUITY

Summary: Touch plays a key role in our perception of our body and shapes our interactions with the world, from the objects we manipulate to the people we touch. While the tactile sensibility of the hand has been extensively characterized, much less is known about touch on other parts of the body. Despite the...

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## **Haptic Feedback Systems for Lower-Limb Prosthetic** Applications: A Review of System Design, User Experience, and Clinical Insights









TACTILE ACUITY

Summary: Systems presenting haptic information have emerged as an important technological advance in assisting individuals with sensory impairments or amputations, where the aim is to enhance sensory perception or provide sensory substitution through tactile feedback. These systems provide information on lim...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41007234/?

## **Gradient Porous Flexible Pressure Sensors with the Relay** Effect for High-Accuracy Braille-to-Speech Recognition



Jianming 1 62
Xu min words

Summary: The development of highly sensitive, wide linear-range flexible pressure sensors is crucial for practical applications in human-computer interaction, physiological signal detection, and motion monitoring. However, traditional flexible pressure sensors often suffer from limited compressibility in the...

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## Individual and community level factors influencing modern contraceptive use among women of reproductive age in South Africa: a multilevel analysis



7 2025-08-26 min 46 words





BRAILLE

Summary: CONCLUSION: Sensory disability status influenced women's contraceptive behaviour in South Africa. Current family planning interventions should target women with sensory disabilities by prioritising accessible communication methods (e.g., braille, sign language), disability awareness training for hea...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40855574/?

### **Explosion-powered eversible tactile displays**







BRAILLE

Summary: High-resolution electronic tactile displays stand to transform haptics for remote machine operation, virtual reality, and digital information access for people who are blind or visually impaired. Yet, increasing the resolution of these displays requires increasing the number of individually addressa...

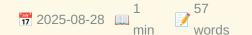
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## A Biomimetic Fiber-Entangled Permeable Electronic Skin for Strain-Insensitive and High-Resolution Tactile Sensing









BRAILLE

Summary: Electronic skins (e-skins) incorporating island architectures represent a promising platform for strain-insensitive tactile sensing by mechanically decoupling sensing units from deformations. However, conventional island designs encounter stress concentration issues caused by inherent modulus mismat...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40874468/?

## **High-Density Tactile Sensor Array for Sub-Millimeter Texture** Recognition







BRAILLE

Summary: High-density tactile sensor arrays that replicate human touch could restore texture perception in paralyzed individuals. However, conventional tactile sensor arrays face inherent trade-offs between spatial resolution, sensitivity, and crosstalk suppression due to microstructure size limitations and ...

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## A Diachronic Investigation of the Change in Form and Formational-Semantic Systematicity of the Chinese Sign **Language Lexicon**











**Summary:** It has been argued in previous research that several competing pressures guide the directions of language evolution (economy vs. redundancy; arbitrariness vs. systematicity). For sign languages, however, the effects of competing pressures on their change of lexical systems remain largely unclear. In...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40889233/?

## Wireless Electrotactile System with Hydrogel-Based **Electrodes for Conformal Tactile Interaction**





1 2025-09-02 min 56 words







**Summary:** A wireless epidermal electrotactile interface is demonstrated through integration of skin-conformal electrodes and flexible circuitry, addressing existing limitations in haptic technology caused by mechanical mismatch and system-level integration challenges. This electrotactile system achieves low s...

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## Beyond access: rethinking assistive technology for individuals with visual impairments in Türkiye





1 55 min words





BRAILLE

Summary: CONCLUSION: Despite demonstrating adaptability, individuals with VI in Türkiye face significant structural barriers to equitable AT access. Informal learning limited public support, and a lack of locally adapted tools contribute to digital exclusion. A rightsbased approach-emphasizing inclusive fun...

#### 

https://pubmed.ncbi.nlm.nih.gov/40937808/?

# High prevalence of bacterial STI, anal HPV, cytological abnormalities and anal lesions among MSM in Togo, 2021: a baseline analysis of the ANRS I MIE 12,400/DepIST-H cohort



**Summary:** CONCLUSIONS: These findings emphasize the high prevalence of STIs among MSM and confirm the unusual distribution of HPV types in West Africa, with HPV35 being highly prevalent. A national strategy regarding STI screening and HPV vaccination in this key population is needed.

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https://pubmed.ncbi.nlm.nih.gov/41013315/?

## **Development and Assessment of a Novel Audiosensory** Performance Method for Improving the Oral Health of Visually **Impaired Children**







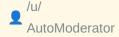
**Summary:** This study evaluated the effectiveness of an audiosensory performance method in enhancing oral health knowledge and status among visually impaired children aged 6-12 years in the National Capital Region (NCR), Delhi. An interventional study design was used, involving 251 participants equally divided...

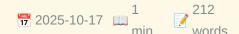
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## Friday Daily Thread: r/Python Meta and Free-Talk Fridays









**REDDIT PYTHON** 

Summary: <!-- SC OFF --><div class="md"><h1>Weekly Thread: Meta Discussions and Free Talk Friday \$\( \\$ </h1> Welcome to Free Talk Friday on <a href="/r/Python">/r/ Python</a>! This is the place to discuss the <a href="/r/Python">r/Python</a> community (meta discussions), Python news, projects, or anything else...

#### Read full article:

https://www.reddit.com/r/Python/comments/1o8meso/friday\_daily\_thread\_rpython\_meta\_and\_freetalk/

## A 4k-Room Text Adventure Written by One Human in QBasic No Al

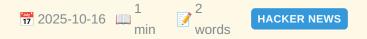


Summary: <a href="https://news.ycombinator.com/item?id=45555709">Comments</a>



https://the-ventureweaver.itch.io/tlote4111

## Lead Limited Brain and Language Development in Neanderthals and Other Hominids?



Summary: <a href="https://news.ycombinator.com/item?id=45611851">Comments</a>

#### **⊗** Read full article:

https://today.ucsd.edu/story/did-lead-limit-brain-and-language-development-in-neanderthals-and-other-extinct-hominids

## America's Semiconductor Boom is Real [video]



Summary: <a href="https://news.ycombinator.com/item?id=45611735">Comments</a>

https://www.youtube.com/watch?v=T-jt3qBzJ4A

## America's Semiconductor Boom is Real [video]



**Summary:** Article URL: <a href="https://www.youtube.com/watch?v=T-jt3qBzJ4A">https://www.youtube.com/watch?v=T-jt3qBzJ4A</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45611735">https://news.ycombinator.com/item?id=45611735</a> Points: 51 # Comments: 1

**⊗** Read full article:

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# Lead Limited Brain and Language Development in Neanderthals and Other Hominids?

gmays 7 2025-10-16 min 13 HACKER NEWS

**Summary:** Article URL: <a href="https://today.ucsd.edu/story/did-lead-limit-brain-and-language-development-in-neanderthals-and-other-extinct-hominids">https://today.ucsd.edu/story/did-lead-limit-brain-and-language-development-in-neanderthals-and-other-extinct-hominids</a> Comments URL: <a href="http..."><a href="http...</a>

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https://today.ucsd.edu/story/did-lead-limit-brain-and-language-development-in-neanderthals-and-other-extinct-hominids

# ICE, Border Patrol agents to receive pay during government shutdown

clanky 7 2025-10-17 min 13 words

**Summary:** Article URL: <a href="https://www.reuters.com/world/us/some-federal-law-enforcement-receive-pay-during-government-shutdown-2025-10-16/">https://www.reuters.com/world/us/some-federal-law-enforcement-receive-pay-during-government-shutdown-2025-10-16/</a> Comments URL: <a href="https://news.y...">https://news.y...

#### 

https://www.reuters.com/world/us/some-federal-law-enforcement-receive-pay-during-government-shutdown-2025-10-16/

### Type S and M errors as a "rhetorical tool"

noreply@blogger.com (Daniel

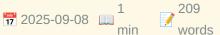
17 2025-09-28 min 3572 words

TWENTY PERCENT STATISTICIAN

**Summary:** <i>Update 30/09/2025: I have added a reply by Andrew Gelman below my original blog post.</i>&nbsp;We recently posted a preprint criticizing the idea of Type S and M errors (<a href="https://osf.io/2phzb\_v1">https://osf.io/2phzb\_v1</a>). From our abstract: "While these concepts have been pr...

http://daniellakens.blogspot.com/2025/09/type-s-and-m-errors-as-rhetorical-tool.html

### **Musical Structure Influences the Perception of Sound** Location





COGNITIVE NEUROSCIENCE

Summary: The perception of multilayered auditory stimuli, such as music or speech, relies on the integration of progressively more complex and abstract features as they are processed along the auditory pathway. To investigate whether higher-level musical structure modulates auditory perception or merely the ...

**⊗** Read full article:

http://ieeexplore.ieee.org/document/11153363

### Call for Applications: IEEE T-MRB Editor in Chief Search

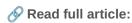








Summary: The post <a href="https://www.embs.org/uncategorized/call-for-applicationsieee-tmrb-editor-in-chief-search/">Call for Applications: IEEE T-MRB Editor in Chief Search</a> appeared first on <a href="https://www.embs.org">IEEE EMBS</a>.



https://www.embs.org/uncategorized/call-for-applications-ieee-tmrb-editor-in-chief-search/

# Call for Applications Editor-in-Chief: IEEE Open Journal of **Engineering in Medicine and Biology**











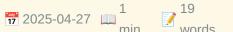
**Summary:** The post <a href="https://www.embs.org/ojemb/search-for-editor-in-chief/">https://www.embs.org/ojemb/search-for-editor-in-chief/ #new tab">Call for Applications Editor-in-Chief: IEEE Open Journal of Engineering in Medicine and Biology</a> appeared first on <a href="https://www.embs.org">IEEE EMBS</ a>.

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### **Notice to IEEE EMBS Members: Change to Field of Interest**









EMBS

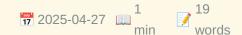
Summary: The post <a href="https://www.embs.org/blog-post/change-foi-for-ieeeembs/">Notice to IEEE EMBS Members: Change to Field of Interest</a> appeared first on <a href="https://www.embs.org">IEEE EMBS</a>.



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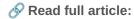








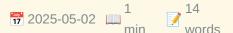
Summary: The post <a href="https://www.embs.org/blog-post/change-foi-for-ieeeembs/#new tab">Notice to IEEE EMBS Members: Change to Field of Interest</a> appeared first on <a href="https://www.embs.org">IEEE EMBS</a>.



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### **Open Call for AdCom Nominations**









Summary: The post <a href="https://www.embs.org/uncategorized/call-for-adcomnominations/">Open Call for AdCom Nominations</a> appeared first on <a href="https:// www.embs.org">IEEE EMBS</a>.



https://www.embs.org/uncategorized/call-for-adcom-nominations/

# IEEE EMBS Appoints Sunghoon "Ivan" Lee, Ph.D., as Editorin-Chief of EMBC Proceedings, the Leading Biomedical **Engineering Conference Publication**











Summary: (Piscataway, N.J., August 12, 2025) Sunghoon "Ivan" Lee, Ph.D., a Donna M. and Robert J. Manning Faculty Fellow and an Associate Professor of computer science, electrical and computer engineering, and… <a class="continue" href="https:// www.embs.org/press/embc-eic-sunghoon-ivan-lee/">Continu...



https://www.embs.org/press/embc-eic-sunghoon-ivan-lee/

# Methodological considerations for quantifying brain asymmetry using neuroimaging techniques

BRAIN RESEARCH

Summary: Publication date: 15 November 2025<b>Source:</b> Brain Research, Volume 1867Author(s): Haokun Li, Jingli Qu, Gaolang Gong

https://www.sciencedirect.com/science/article/pii/S0006899325005426?dgcid=rss sd all

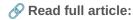
## Prefrontal transcranial direct current stimulation enhances the analgesic effects of attention bias modification: a randomized controlled trial





**BRAIN RESEARCH** 

Summary: Publication date: 1 December 2025<b>Source:</b> Brain Research, Volume 1868Author(s): Xue Jiang, Haozhi Zhao, Ruihan Wan, Chen Gong, Beibei Feng, Yafei Wang, Yangfan Xu, Wangwang Yan, Xueqiang Wang, Yixuan Ku, Yuling Wang



https://www.sciencedirect.com/science/article/pii/S0006899325005396?dgcid=rss\_sd\_all

# The study of beneficial effect and mechanism of propofol on TNF-α-induced p-Tau increase in HT22 hippocampal neurons

NEUROSCIENCE JOURNAL

Summary: Publication date: 10 November 2025<b>Source:</b> Neuroscience, Volume 587Author(s): Shuai Gao, Yifei Wang, Zhihong Xu, Minmin Zhu, Zhipeng Meng, Guanghui An, Jiawei Chen

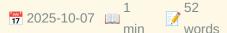
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https://www.sciencedirect.com/science/article/pii/S0306452225009789?dgcid=rss\_sd\_all

### When noncanonical olfaction is optimal

Caitlin LienkaemperMeg A. YoungerGabriel Koch OckeraDepartment of Mathematics and Statistics, Boston University, Boston, MA 02215bCenter for Systems Neuroscience, Boston University, Boston,

MA 02215cDepartment of Biology, Boston University, Boston, MA 02215dDepartment of Bioengineering, Center for Neurophotonics, Boston University, Boston, MA 02215eCenter for Neurophotonics, Boston University, Boston, MA 02215







PNAS NEUROSCIENCE

Summary: Proceedings of the National Academy of Sciences, Volume 122, Issue 41, October 2025. <br/>
SignificanceThe canonical model of early olfaction is that each olfactory sensory neuron (OSN) expresses one type of olfactory receptor, and neurons with the same receptor project to the same downstream glomer...

### 

https://www.pnas.org/doi/abs/10.1073/pnas.2508439122?af=R

# Biologically grounded neocortex computational primitives implemented on neuromorphic hardware improve vision transformer performance

Asim IqbalHassan MahmoodGreg J. StuartGord FishellSuraj HonnuraiahaTibbling Technologies, Seattle, WA 98052-5727bJohn Curtin School of Medical Research, Eccles Institute of Neuroscience, Australian National University, Canberra, ACT 2601, AustraliacDepartment of Physiology, Monash

■ University, Melbourne, VIC 3800, AustraliadHarvard Medical School, Blavatnik Institute, Department of Neurobiology, Boston, MA 02115eStanley Center for Psychiatric Research, Broad Institute of MIT and Harvard, Cambridge, MA 02142fInstitute of Neuroinformatics, ETH Zurich and University of Zurich, Zurich CH-8057, Switzerland

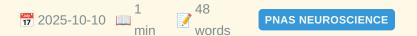


**Summary:** Proceedings of the National Academy of Sciences, Volume 122, Issue 41, October 2025. <br/>
SignificanceWe implement a biologically grounded cortical circuit motif in neuromorphic hardware and AI architectures to show how experimentally informed neocortical computations, realized through cell-type-sp...

https://www.pnas.org/doi/abs/10.1073/pnas.2504164122?af=R

# Inter- and intrahemispheric sources of vestibular signals to V1

Guy BouvierAlessandro SanzeniElizabeth HamadaNicolas BrunelMassimo ScanzianiaDepartment of Physiology, University of California San Francisco, San Francisco, CA 94158bHHMI, University of California San Francisco, San Francisco, CA 94158cCNRS, Institut des Neurosciences Paris-Saclay, Université Paris-Saclay, Saclay 91400, FrancedDepartment of Computing Sciences, Bocconi University, Milan 20100, ItalyeCenter for Theoretical Neuroscience, Columbia University, New York, NY 10027fMortimer B Zuckerman Mind Brain Behavior Institute, Columbia University, New York, NY 10027gDepartment of Neurobiology, Duke University, Durham, NC 27710hDepartment of Neurology,



University of California San Francisco, San Francisco, CA 94158

**Summary:** Proceedings of the National Academy of Sciences, Volume 122, Issue 41, October 2025. <br/>
SignificanceInformation about head motion is fundamental to the visual interpretation of our environment. Indeed, head motion signals originating from the vestibular system robustly modulate activity in the vi...

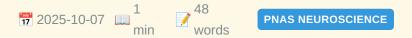
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https://www.pnas.org/doi/abs/10.1073/pnas.2503181122?af=R

# The locus coeruleus maintains core body temperature and protects against hypothermia during dexmedetomidine-induced sedation

Berta Anuncibay SotoYing MaMathieu NolletSara WongGiulia MiraccaDaniel RastinejadRaquel YustosAlexei L. VyssotskiNicholas P. FranksWilliam WisdenaDepartment of Life Sciences, Imperial

■ College London, London SW7 2AZ, United KingdombUnited Kingdom Dementia Research Institute at Imperial College London, London W12 0BZ, United KingdomcInstitute of Neuroinformatics, University of Zurich and ETH Zurich, Zurich CH8057, Switzerland



**Summary:** Proceedings of the National Academy of Sciences, Volume 122, Issue 41, October 2025. <br/>
SignificanceDexmedetomidine (DEX), a widely used sedative in intensive care, induces an arousable state resembling non-rapid eye movement (NREM) sleep and lowers body temperature. For some patients, even sligh...

https://www.pnas.org/doi/abs/10.1073/pnas.2422878122?af=R

# Epileptic brain imaging by source localization CLARA supported by ictal-based semiology and VEEG in resource-limited settings

Aleksandra Kawala-Sterniuk 1 2025-08-29 min 279 words

FRONTIERS NEUROINFORMATICS

**Summary:** IntroductionAccurate localization of the epileptogenic zone is essential for surgical treatment of drug-resistant epilepsy. Standard presurgical evaluations rely on multimodal neuroimaging techniques, but these may be limited by availability and interpretive challenges. This study aimed to assess th...

https://www.frontiersin.org/articles/10.3389/fninf.2025.1661617

# VAE deep learning model with domain adaptation, transfer learning and harmonization for diagnostic classification from multi-site neuroimaging data



**Summary:** In large public multi-site fMRI datasets, the sample characteristics, data acquisition methods, and MRI scanner models vary across sites and datasets. This non-neural variability obscures neural differences between groups and leads to poor machine learning based diagnostic classification of neurodev...

https://www.frontiersin.org/articles/10.3389/fninf.2025.1553035

# Software and pipelines for registration and analyses of rodent brain image data in reference atlas space

Jan G. Bjaalie

1 2025-09-24 min 207



FRONTIERS NEUROINFORMATICS

Summary: Advancements in methodologies for efficient large-scale acquisition of highresolution serial microscopy image data have opened new possibilities for experimental studies of cellular and subcellular features across whole brains in animal models. There is a high demand for open-source software and wo...

https://www.frontiersin.org/articles/10.3389/fninf.2025.1629388

# Editorial: Neuro-detection: advancements in pattern detection and segmentation techniques in neuroscience







FRONTIERS COMPUTATIONAL NEUROSCIENCE

Read full article:

https://www.frontiersin.org/articles/10.3389/fncom.2025.1685174

### Editorial: AI and inverse methods for building digital twins in neuroscience





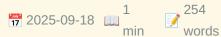




https://www.frontiersin.org/articles/10.3389/fncom.2025.1684335

# Intrinsic calcium resonance and its modulation: insights from computational modeling









FRONTIERS COMPUTATIONAL NEUROSCIENCE

Summary: Hippocampal neurons generate membrane potential resonance due to specific voltage-gated ion channels, known as resonating conductances, which play crucial physiological roles. However, it is not known whether this phenomenon of resonance is limited to membrane voltage or whether it propagates throug...

https://www.frontiersin.org/articles/10.3389/fncom.2025.1669841

# Effects of AC induced electric fields on neuronal firing sensitivity and activity patterns



FRONTIERS COMPUTATIONAL NEUROSCIENCE

**Summary:** IntroductionUnderstanding how neurons respond to time-varying electric fields is essential for both basic neuroscience and the development of neuromodulation strategies. However, the mechanisms by which alternating-current induced electric fields (AC-IEF) influence neuronal sensitivity and firing re...

https://www.frontiersin.org/articles/10.3389/fncom.2025.1612314

# CRISP: a correlation-filtered recursive feature elimination and integration of SMOTE pipeline for gait-based Parkinson's disease screening



FRONTIERS COMPUTATIONAL NEUROSCIENCE

**Summary:** IntroductionParkinson's disease (PD) is the fastest-growing neurodegenerative disorder, with subtle gait changes such as reduced vertical ground-reaction forces (VGRF) often preceding motor symptoms. These gait abnormalities, measurable via wearable VGRF sensors, offer a non-invasive means for early...

https://www.frontiersin.org/articles/10.3389/fncom.2025.1660963

# Modeling dyslexia in neurotypical adults by combining neuroimaging and neuromodulation techniques: a hypothesis paper

Shinri 1 263
Ohta min 263

FRONTIERS HUMAN NEUROSCIENCE

Summary: Dyslexia is a prevalent developmental disorder marked by deficits in literacy skills. Given that the core deficits of dyslexia are uniquely human, animal models have not been as useful in dyslexia research as they have been in other areas of research. While significant progress has been made through...

**⊗** Read full article:

https://www.frontiersin.org/articles/10.3389/fnhum.2025.1651332

## Efficacy of snap-needle patch therapy in pediatric epilepsy: a case study

FRONTIERS HUMAN NEUROSCIENCE

Summary: BackgroundsEpilepsy is a prevalent neurological disorder in early childhood, often characterized by genetic predisposition and diverse clinical manifestations. Benign epilepsy of childhood with central temporal spikes (BECTS) is the most common form of self-limited focal epilepsy (SeLFE) syndrome in...

Read full article:

https://www.frontiersin.org/articles/10.3389/fnhum.2025.1618266

## Toward accurate single image sand dust removal by utilizing uncertainty-aware neural network

Yixin Wang

1 189 min words

FRONTIERS NEUROROBOTICS

Summary: Although deep learning methods have made significant strides in single image sand dust removal, the heterogeneous uncertainty induced by dusty environments poses a considerable challenge. In response, our research presents a novel framework known as the Hierarchical Interactive Uncertainty-aware Net...

https://www.frontiersin.org/articles/10.3389/fnbot.2025.1575995

# Source-free domain adaptation for SSVEP-based braincomputer interfaces

Osman Berke Guney, Deniz Kucukahmetler and Huseyin Ozkan



216

JOURNAL NEURAL ENGINEERING

Summary: Objective. Steady-state visually evoked potential-based Brain-computer interface (BCI) spellers assist individuals experiencing speech difficulties by enabling them to communicate at a fast rate. However, achieving a high information transfer rate (ITR) in most prominent methods requires an extensiv...

http://iopscience.iop.org/article/10.1088/1741-2552/ae0c3d

# **EEG** workload estimation and classification: a systematic review

Jahid Hassan, Shamim Reza, Syed Udoy Ahmed, Nazmul Haque Anik and Md Obaydullah Khan

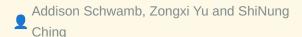
1 300 JOURNAL NEURAL ENGINEERING words

**Summary:** Objective. Electroencephalography (EEG) has evolved into an indispensable instrument for estimating cognitive workload in various domains. Machine Learning (ML) and deep learning (DL) techniques have been increasingly employed to develop accurate workload estimation and classification models based o...

**⊗** Read full article:

http://iopscience.iop.org/article/10.1088/1741-2552/ad705e

# Identification of modulated whole-brain dynamical models from nonstationary electrophysiological data





JOURNAL NEURAL ENGINEERING

**Summary:** Objective. Understanding the mechanisms underlying brain dynamics is a longheld goal in neuroscience. However, these dynamics are both individualized and nonstationary, making modeling challenging. Here, we present a data-driven approach to modeling nonstationary dynamics based on principles of neu...

Read full article:

http://iopscience.iop.org/article/10.1088/1741-2552/ae0d32

# Brain-to-text decoding with context-aware neural representations and large language models

Jingyuan Li, Trung Le, Chaofei Fan, Mingfei Chen and Eli Shlizerman

1 2025-10-13 min



JOURNAL NEURAL ENGINEERING

**Summary:** Objective. Decoding attempted speech from neural activity offers a promising avenue for restoring communication abilities in individuals with speech impairments. Previous studies have focused on mapping neural activity to text using phonemes as the intermediate target. While successful, decoding neu...

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http://iopscience.iop.org/article/10.1088/1741-2552/adfab1

### **Ace Frehley Dies at 74**

FillardMillmore 7 2025-10-16 min 13 words

**Summary:** Article URL: <a href="https://variety.com/2025/music/news/ace-frehley-kiss-lead-guitarist-dead-1236554943/">https://variety.com/2025/music/news/ace-frehley-kiss-lead-guitarist-dead-1236554943/</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45611582">https://news.ycombi

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https://variety.com/2025/music/news/ace-frehley-kiss-lead-guitarist-dead-1236554943/

# Advancing Cardiac Organoid Engineering Through Application of Biophysical Forces

1 188 REVIEWS BIOMEDICAL ENGINEERING words

**Summary:** Cardiac organoids represent an important bioengineering opportunity in the development of models to study human heart pathophysiology. By incorporating multiple cardiac cell types in three-dimensional culture and developmentally-guided biochemical signaling, cardiac organoids recapitulate numerous f...

http://ieeexplore.ieee.org/document/10787078

# **Lightweight GAN for Restoring Blurred Images to Enhance Citrus Detection**



**Summary:** Image blur is a major factor that degrades object detection in agricultural applications, particularly in orchards where crop occlusion, leaf movement, and camera shake frequently reduce image quality. This study proposed a lightweight generative adversarial network, AGG-DeblurGAN, to address non-un...

#### **Read full article:**

https://pubmed.ncbi.nlm.nih.gov/41095226/?

# Opportunistic Eye Disease Screening in Mazovia, Poland: **Lessons from a Local Government Program: "Good Vision for** Mazovians"

Radosław

1 2025-10-16 min 68 Low VISION

Summary: Background: Vision loss due to chronic eye diseases remains a significant public health challenge. Early detection through screening programs may reduce the burden of vision loss. This study aimed to assess the detection rate of eye diseases (glaucoma, AMD, and diabetic retinopathy), including those...

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### Interplay of Modifiable and Non-Modifiable Risk Factors for **Diabetes Mellitus in Saudi Adults**

Ibrahim M Gosadi

1 69 min words

LOW VISION

Summary: Background/Objectives: Diabetes Mellitus (DM) remains a critical public health issue in Saudi Arabia, shaped by complex interactions among genetic, lifestyle, and sociodemographic factors. This study explores interplay of modifiable and non-modifiable determinants of DM among Saudi adults. Methods: ...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41095670/?

# Which Physical Therapy Intervention Is Most Effective in **Reducing Secondary Lymphedema Associated with Breast Cancer? A Systematic Review and Network Meta-Analysis**







Summary: Background: Breast cancer-related lymphedema (BCRL) is a common complication that impairs function and quality of life (QoL). The comparative effectiveness of physical therapy interventions (PTIs) remains unclear. This systematic review and network meta-analysis (NMA) was conducted to identify the m...

### **⊗** Read full article:

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## Visual Function Characteristics in <em>STXBP1</em> **Epileptic Encephalopathy Patients**







Summary: Background: The goal of the study was to describe the visual function characteristics of children with developmental epileptic encephalopathy resulting from mutations in the STXBP1 gene. Methods: The study included 26 consecutive patients from the Polish STXBP1 population (11 male and 16 female; mea...

### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41095919/?

# Fully Automated Segmentation of Cervical Spinal Cord in Sagittal MR Images Using Swin-Unet Architectures

Utku Şenol

1 67 min words



Summary: Background/Objectives: The spinal cord is a critical component of the central nervous system that transmits neural signals between the brain and the body's peripheral regions through its nerve roots. Despite being partially protected by the vertebral column, the spinal cord remains highly vulnerable...

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https://pubmed.ncbi.nlm.nih.gov/41096074/?

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## **Monitoring Night-Time Activity Patterns of Laying Hens in** Response to Poultry Red Mite Infestations Using Night-Vision Cameras







LOW VISION

Summary: The poultry red mite (PRM) feeds on hens' blood at night, disrupting sleep, harming welfare, and reducing productivity. Effective control may lie in dynamic Integrated Pest Management (IPM), which relies on routine monitoring and adaptation to farm conditions. This study investigated how PRM infesta...

### **Read full article:**

https://pubmed.ncbi.nlm.nih.gov/41096523/?

# Clinical Potential of Essential Oils: Cytotoxicity, Selectivity Index, and Efficacy for Combating Gram-Positive ESKAPE Pathogens



**Summary:** (1) Background: Essential oils (EOs) have emerged as promising antibacterial agents due to their broad-spectrum activity and low risk of resistance development. Therefore, this review aimed to assess the effectiveness of EOs against Gram-positive ESKAPE pathogens, and to evaluate their safety and to...

### 

https://pubmed.ncbi.nlm.nih.gov/41097295/?

# **Artificial Intelligence-Enhanced Liquid Biopsy and Radiomics** in Early-Stage Lung Cancer Detection: A Precision Oncology **Paradigm**

Shivaram P Arunachalam

1 57 Low vision min words

Summary: CONCLUSION: The integration of AI with liquid biopsy and radiomics holds transformative potential for early lung cancer detection. This non-invasive, scalable, and individualized diagnostic paradigm could significantly reduce lung cancer mortality through timely and targeted interventions. As techno...

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# **One-Hot Multi-Level Leaky Integrate-and-Fire Spiking Neural Networks for Enhanced Accuracy-Latency Tradeoff**









Summary: Spiking neural networks (SNNs) hold significant promise as energy-efficient alternatives to conventional artificial neural networks (ANNs). However, SNNs require computations across multiple timesteps, resulting in increased latency, heightened energy consumption, and additional memory access overhe...

### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41098230/?

# The taste of trigeminal sensations: relation between taste, lingual tactile acuity, and spicy perception in patients with taste dysfunction

Thomas
Hummel

Thomas

Tactile Acuity

Thomas

Summary: In the oral cavity, oral stereognosis and chemesthesis refer to the abilities to recognize shapes and detect noxious substances, respectively, through various receptors distributed on the tongue. The absence of standardized methods to assess oral somatosensory perception has led to a lack of consens...

### **⊗** Read full article:

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# **Measuring the Distribution of Tactile Acuity at the Index Finger and Thumb Fingertips**

Hiroyuki

1 75
min words

TACTILE ACUITY

Summary: In our day-to-day activities, we utilize not only the pads of our fingers but also the sides and hemispherical tips when manipulating objects. For teleoperation systems to replicate these real-life interactions, tactile sensation must be presented and distributed across the entire fingertip. Thus, u...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40526544/?

# Optimizing Vibrotactile Feedback for Sensory Substitution in the Thigh: Spatial Acuity and Frequency Characteristics

Leah R

Bent

1

2025-06-27

min

69

words

TACTILE ACUITY

**Summary:** Amputation of a lower limb not only affects mobility but also interferes with sensory feedback, leading to an elevated risk of falls among individuals living with amputation. Sensory substitution, achieved through tactile displays embedded in transfemoral prosthetic sockets, presents a promising non...

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# Directional vibro-tactile hazard warnings for drivers with vision impairments

Alex R

Bowers

1

80

min

words

TACTILE ACUITY

Summary: Vision impairment may delay responses to hazards when driving. In a proof-ofconcept driving simulator study, we evaluated a hazard warning device designed for vision impaired drivers. Three groups participated: 11 persons with central vision loss (CVL; median age 60 years), 12 with homonymous field...

### 

https://pubmed.ncbi.nlm.nih.gov/40601880/?

### Sensitivity and vagal reactivity to C-tactile-mediated affective touch in mild cognitive impairment due to Alzheimer's disease



1 2025-08-01 min 64 TACTILE ACUITY



Summary: BackgroundC-tactile (CT) afferents preferentially activate in response to slow caress-like touch, evoking a diffuse pleasant sensation and promoting autonomic regulation. According to Braak's classic model, the neurodegenerative process in Alzheimer's disease (AD) only affects somatosensory cortices...

### **⊗** Read full article:

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# Differences in tactile grid localization accuracy between people with back pain compared to individuals without pain



1 22 min 2025-08-24 min 22





**Summary:** OBJECTIVES: The study aimed to investigate the grid localization test (GLT) between patients with lower back pain and those without back pain.

### 

https://pubmed.ncbi.nlm.nih.gov/40850311/?

## **Eye Drop Instillation Success and Hand Function in Adults** with Glaucoma: A Pilot Study

Paula Anne Newman-Casev

1 74 TACTILE ACUITY words

Summary: CONCLUSIONS: Despite hand function deficits, in this exploratory pilot study, adults with glaucoma demonstrated eye drop instillation success comparable to those without glaucoma, though with higher rates of bottle tip contact with the eye, skin, or eyelashes, suggesting an increased risk of potenti...

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https://pubmed.ncbi.nlm.nih.gov/40924900/?

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# Functional evidence for early origin of tactile acuity in the vertebrate somatosensory system

Sviatoslav N Bagriantsev

1 2025-09-13 min 58 words

TACTILE ACUITY

Summary: Mammals and reptiles possess a sophisticated somatosensory system for precise tactile discrimination via mechanosensory end-organs, such as Meissner and Pacinian corpuscles and others. These structures detect sustained pressure, velocity, and vibrations, thereby facilitating nuanced environmental in...

### 

https://pubmed.ncbi.nlm.nih.gov/40945511/?

# The coarse mental map of the breast is anchored on the nipple

Charles M

Greenspon

1

86

words

TACTILE ACUITY

Summary: Touch plays a key role in our perception of our body and shapes our interactions with the world, from the objects we manipulate to the people we touch. While the tactile sensibility of the hand has been extensively characterized, much less is known about touch on other parts of the body. Despite the...

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# **Haptic Feedback Systems for Lower-Limb Prosthetic** Applications: A Review of System Design, User Experience, and Clinical Insights









TACTILE ACUITY

Summary: Systems presenting haptic information have emerged as an important technological advance in assisting individuals with sensory impairments or amputations, where the aim is to enhance sensory perception or provide sensory substitution through tactile feedback. These systems provide information on lim...

### Read full article:

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# **Gradient Porous Flexible Pressure Sensors with the Relay** Effect for High-Accuracy Braille-to-Speech Recognition









Summary: The development of highly sensitive, wide linear-range flexible pressure sensors is crucial for practical applications in human-computer interaction, physiological signal detection, and motion monitoring. However, traditional flexible pressure sensors often suffer from limited compressibility in the...

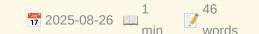
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# Individual and community level factors influencing modern contraceptive use among women of reproductive age in South Africa: a multilevel analysis









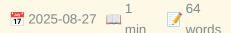
Summary: CONCLUSION: Sensory disability status influenced women's contraceptive behaviour in South Africa. Current family planning interventions should target women with sensory disabilities by prioritising accessible communication methods (e.g., braille, sign language), disability awareness training for hea...

### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40855574/?

### **Explosion-powered eversible tactile displays**







BRAILLE

Summary: High-resolution electronic tactile displays stand to transform haptics for remote machine operation, virtual reality, and digital information access for people who are blind or visually impaired. Yet, increasing the resolution of these displays requires increasing the number of individually addressa...

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# A Biomimetic Fiber-Entangled Permeable Electronic Skin for Strain-Insensitive and High-Resolution Tactile Sensing











Summary: Electronic skins (e-skins) incorporating island architectures represent a promising platform for strain-insensitive tactile sensing by mechanically decoupling sensing units from deformations. However, conventional island designs encounter stress concentration issues caused by inherent modulus mismat...

### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40874468/?

# **High-Density Tactile Sensor Array for Sub-Millimeter Texture** Recognition







BRAILLE

Summary: High-density tactile sensor arrays that replicate human touch could restore texture perception in paralyzed individuals. However, conventional tactile sensor arrays face inherent trade-offs between spatial resolution, sensitivity, and crosstalk suppression due to microstructure size limitations and ...

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# A Diachronic Investigation of the Change in Form and Formational-Semantic Systematicity of the Chinese Sign **Language Lexicon**









**Summary:** It has been argued in previous research that several competing pressures guide the directions of language evolution (economy vs. redundancy; arbitrariness vs. systematicity). For sign languages, however, the effects of competing pressures on their change of lexical systems remain largely unclear. In...

### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40889233/?

### Wireless Electrotactile System with Hydrogel-Based **Electrodes for Conformal Tactile Interaction**





1 2025-09-02 min 56 words





BRAILLE

**Summary:** A wireless epidermal electrotactile interface is demonstrated through integration of skin-conformal electrodes and flexible circuitry, addressing existing limitations in haptic technology caused by mechanical mismatch and system-level integration challenges. This electrotactile system achieves low s...

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# Beyond access: rethinking assistive technology for individuals with visual impairments in Türkiye





1 55 min words





BRAILLE

Summary: CONCLUSION: Despite demonstrating adaptability, individuals with VI in Türkiye face significant structural barriers to equitable AT access. Informal learning limited public support, and a lack of locally adapted tools contribute to digital exclusion. A rightsbased approach-emphasizing inclusive fun...

### 

https://pubmed.ncbi.nlm.nih.gov/40937808/?

# High prevalence of bacterial STI, anal HPV, cytological abnormalities and anal lesions among MSM in Togo, 2021: a baseline analysis of the ANRS I MIE 12,400/DepIST-H cohort



**Summary:** CONCLUSIONS: These findings emphasize the high prevalence of STIs among MSM and confirm the unusual distribution of HPV types in West Africa, with HPV35 being highly prevalent. A national strategy regarding STI screening and HPV vaccination in this key population is needed.

### 

https://pubmed.ncbi.nlm.nih.gov/41013315/?

# Development and Assessment of a Novel Audiosensory Performance Method for Improving the Oral Health of Visually Impaired Children



**Summary:** This study evaluated the effectiveness of an audiosensory performance method in enhancing oral health knowledge and status among visually impaired children aged 6-12 years in the National Capital Region (NCR), Delhi. An interventional study design was used, involving 251 participants equally divided...

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https://pubmed.ncbi.nlm.nih.gov/41041413/?

Efficacy of non-invasive brain stimulation combined with constraint-induced movement therapy on upper extremity function in patients who had a stroke: protocol for a systematic review and meta-analysis of randomised controlled trials



**Summary:** INTRODUCTION: Stroke remains a leading cause of death and long-term disability worldwide, with the majority of survivors experiencing functional impairments, particularly affecting the upper extremities (UEs). Although clinically widespread rehabilitation methods, such as physical and occupational t...

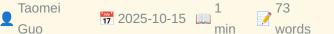
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## Optimizing cognitive control through the interaction between stimulation intensity and duration in single-site and dual-site **tDCS**









TDCS TACS TRNS

Summary: In the present study, we investigated the relationship between tDCS dosage and the effects of single-site and dual-site tDCS. In Experiment 1, two types of stimulation intensities (1 mA or 1.5 mA) were applied while participants performed a Flanker task. In Experiment 2, two different stimulation du...

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## Effects of Transcranial Electrical Stimulation on Intermuscular Coherence in WuShu Sprint and KAN-Based **EMG-Performance Function Fitting**









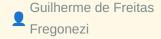
TDCS TACS TRNS

Summary: CONCLUSIONS: Targeted tDCS enhances neuromuscular coordination and sprint velocity, while KAN provides a transparent framework for performance modeling in elite sports.

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https://pubmed.ncbi.nlm.nih.gov/41095063/?

## **High-Definition Transcranial Direct Current Stimulation (HD**tDCS) Therapy in Amyotrophic Lateral Sclerosis: Study **Protocol for a Multicenter Randomized Controlled Clinical** Trial







TDCS TACS TRNS

Summary: Background/Objectives: Amyotrophic Lateral Sclerosis (ALS) is a progressive and fatal neurodegenerative disease characterized by motor neuron loss, muscle weakness, and respiratory dysfunction, often culminating in ventilatory failure. Evidence suggests that High-Definition Transcranial Direct Curre...

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https://pubmed.ncbi.nlm.nih.gov/41095781/?

## **Effectiveness of Electrical Stimulation on Upper Limb Function in Children and Young People with Hemiplegic Cerebral Palsy: A Systematic Review**







Summary: Objectives: This review seeks to evaluate the effectiveness of electrical stimulation (ES) in improving upper limb function in children and young people (CYP) with hemiplegic cerebral palsy (HCP). Methods: A systematic literature search from inception until May 2025 was conducted. Various study desi...

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https://pubmed.ncbi.nlm.nih.gov/41095797/?

## A Comprehensive Evaluation of Consumer Trends and the **Bioactive Content of Extra Virgin Olive Oil: Comparative Insights into Trademarked and Local Products**









TDCS TACS TRNS

Summary: This multidisciplinary comparative study investigates consumption patterns, health-related properties, and quality attributes of trademarked and local extra virgin olive oil (EVOO) samples. It highlights the importance of localization in promoting agricultural sustainability, strengthening regional ...

#### 

https://pubmed.ncbi.nlm.nih.gov/41097552/?

## **Effects of Cerebellar tACS With Gamma Band on Basketball Shooting Skills: A Single-Blind, Randomized Controlled Trial** in College Students With Basketball Experience









Summary: CONCLUSIONS: Our results indicate that 70 Hz tACS over the cerebellum may improve basketball shooting skills. These results provide valuable insights into the practical application of tACS in sports. I The purpose of this study was to determine the effects of cerebellar tACS on basketball shooting s...

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## Use of a Vertical Traction Device in the Management of an **Open Abdomen: A Case Report**







TDCS TACS TRNS

**Summary:** A laparostomy procedure, a critical intervention frequently employed in both trauma and non-trauma patients, is a key component of damage control resuscitation. The use of a vertical traction device (VTD), specifically Fasciotens® Abdomen (FTA), is a relatively novel technology that prevents fascial...

#### Read full article:

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## A Systematic Review of Reporting Adverse Effects **Associated With Transcranial Direct Current Stimulation in Chronic Pain**

Daniela-Viorica
Mosoiu

1 2025-10-16 min 46 words

TDCS TACS TRNS

Summary: CONCLUSIONS: In the present form of reporting AEs of tDCS in clinical studies involving patients with chronic pain, this procedure seems to be safe. Nevertheless, we identified diverse modalities of reporting and assessing AEs, which should raise the need for a standardized procedure in this domain.

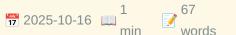
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### **Therapeutic Strategies for Patient Safety**







TDCS TACS TRNS

Summary: CONCLUSIONS: The development of a health system based on moral and ethical values and oriented toward increasing the quality of life through therapeutic strategies and measures to ensure patient safety, a holistic approach to the patient and the disease, and the development of personalized therapies...

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https://pubmed.ncbi.nlm.nih.gov/41099742/?

## A time-frequency feature fusion-based deep learning network for SSVEP frequency recognition

Jijun 1 62
Tong min words

BRAIN COMPUTER INTERFACE

Summary: INTRODUCTION: Steady-state visual evoked potential (SSVEP) has emerged as a pivotal branch in brain-computer interfaces (BCIs) due to its high signal-to-noise ratio (SNR) and elevated information transfer rate (ITR). However, substantial inter-subject variability in electroencephalographic (EEG) sig...

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## Participant Engagement, Epistemic Injustice, and Early-Phase **Implanted Neural Device Research**



1 2025-10-15 min 66 words



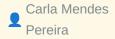
**BRAIN COMPUTER INTERFACE** 

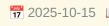
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### An EEG-based Imagined Speech Database for comparing **Paradigm Designs**

Luz María Alonso-Valerdi 1 2025-10-15 min words

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## **Passive Brain-Computer Interface Using Textile-Based** Electroencephalography

Sujoy Ghosh Hajra





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Xiaoyang
Yuan

1
2025-10-16 min

63
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1 71 min words





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1 63 min words

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## A Novel Grasping Robot Control Method Using Motion **Execution BCI Combining Knowledge Reasoning**

Wang

1 68 min words



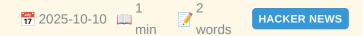
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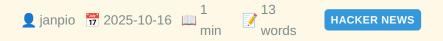
## Microwave technique allows energy-efficient chemical reactions



Summary: <a href="https://news.ycombinator.com/item?id=45543546">Comments</a>

https://phys.org/news/2025-10-microwave-technique-energy-efficient-chemical.html

## Understanding Spec-Driven-Development: Kiro, Spec-Kit, and Tessl



**Summary:** Article URL: <a href="https://martinfowler.com/articles/exploring-gen-ai/sdd-3-tools.html">https://martinfowler.com/articles/exploring-gen-ai/sdd-3-tools.html</a>
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Ashley Feinsinger

1 2025-10-15 min 66 words

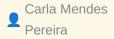
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https://pubmed.ncbi.nlm.nih.gov/41100231/?

## Associations of screen time and physical activity with TMSbased measures of motor cortical excitability in adolescents

NEUROSCIENCE JOURNAL

Summary: Publication date: 10 November 2025<b>Source:</b> Neuroscience, Volume 587Author(s): Hannamari Skog, Sara Määttä, Laura Säisänen, Timo A. Lakka, Eero A. Haapala

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## Genome-wide CRISPR screen reveals Wnt signaling defects regulate lipid accumulation in APOE4 oligodendrocytes

Akay, L. A., Bright, A., Boix, C., Louderback, K., Medrano, J., Sun, D., King, O., Welch, G., Agbas, E., Jiang, A., Bubnys, A., Cheng, J.-X., Blanchard, J., Tsai, L.-H.







BIORXIV NEUROSCIENCE

**Summary:** APOE4 is the largest genetic risk factor for late-onset Alzheimer's disease, but the cellular mechanisms by which APOE variants influence risk of disease remain incompletely understood. We have previously found that APOE4 expression led to the intracellular accumulation of lipid droplets in oligoden...

https://www.biorxiv.org/content/10.1101/2025.10.16.682845v1?rss=1

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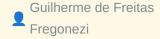


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TDCS TACS TRNS

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Daniela-Viorica
Mosoiu

1 2025-10-16 min 46 words

TDCS TACS TRNS

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1 67 min words



TDCS TACS TRNS

Summary: CONCLUSIONS: The development of a health system based on moral and ethical values and oriented toward increasing the quality of life through therapeutic strategies and measures to ensure patient safety, a holistic approach to the patient and the disease, and the development of personalized therapies...

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https://pubmed.ncbi.nlm.nih.gov/41099742/?

Cognitive performance fatigability, perceived fatigability, and trait fatigue in post-COVID-19 condition: A cross-sectional study.



NEUROPSYCHOLOGY

Summary: Objective: Earlier research on fatigue in post-COVID-19 condition (PCC) has mainly studied subjective fatigue, either over a prolonged period (trait fatigue) or in relation to a certain situation (state fatigue) in the form of perceived fatigability. Another aspect of state fatigue, cognitive perfor...

**⊗** Read full article:

http://doi.org/10.1037/neu0001020

## **Embodied concepts in Parkinson's disease: Insights from** fruits versus animals semantic fluency impairments.

1 262 min words



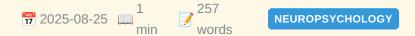


**NEUROPSYCHOLOGY** 

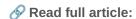
Summary: Objective: Initial findings indicate that semantic memory retrieval of different categories, such as fruits and animals, is variably impacted in Parkinson's disease (PD). Importantly, theories of embodied cognition propose that these variances may stem from compromised motor processing in PD patient...

http://doi.org/10.1037/neu0001026

Using the Modified Taylor Complex Figure–Recognition Trial (MTCF-RT) to differentiate amnestic patients with Alzheimer's disease from patients with memory deficits due to Parkinson's disease or subcortical ischemic vascular dementia.



**Summary:** Objective: The Modified Taylor Complex Figure–Recognition Trial (MTCF-RT) is a visual recognition memory measure that consists of a recognition trial to be administered after the copy and the delayed reproduction of the Modified Taylor Complex Figure Test. The aim of this study was to validate the M...



http://doi.org/10.1037/neu0001036

## Affliction class moderates the dementing impact of amyloidopathy.



**Summary:** Objective: The treatment of dementia is increasingly likely to focus on dementia-related biomarkers. Unfortunately, there is variability with regard to biomarker-related effects. This analysis tests an algorithm capable of identifying persons adversely impacted by any dementia-related biomarker in t...

#### **Read full article:**

http://doi.org/10.1037/neu0001021

## Semantic processing in subjective cognitive decline: An eyetracking study.



**Summary:** Objectives: Alzheimer's disease progresses through several stages, starting with a preclinical phase characterized by subjective cognitive decline (SCD), where individuals express concerns about their memory despite normal cognitive test results. Recent research has indicated subtle semantic difficu...



http://doi.org/10.1037/neu0001022

### **Monthly Updates [Oct]**



**Summary:** <div class="info custom-block">INFO These update threads only contains major updates. If you're interested in seeing all minor changes you can follow our <a href="https://github.com/fmhy/FMHYedit/commits/main" rel="noreferrer" target="\_blank">Commits Page</a> on ...



https://fmhy.net/posts/oct-2025

## Neuron synchronization analyzed through spatial-temporal attention



FRONTIERS COMPUTATIONAL NEUROSCIENCE

**Summary:** Neuronal synchronization refers to the temporal coordination of activity across populations of neurons, a process that underlies coherent information processing, supports the encoding of diverse sensory stimuli, and facilitates adaptive behavior in dynamic environments. Previous studies of synchroni...

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https://www.frontiersin.org/articles/10.3389/fncom.2025.1655462

# Modeling cognition through adaptive neural synchronization: a multimodal framework using EEG, fMRI, and reinforcement learning



FRONTIERS COMPUTATIONAL NEUROSCIENCE

**Summary:** IntroductionUnderstanding the cognitive process of thinking as a neural phenomenon remains a central challenge in neuroscience and computational modeling. This study addresses this challenge by presenting a biologically grounded framework that simulates adaptive decision making across cognitive stat...

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https://www.frontiersin.org/articles/10.3389/fncom.2025.1616472

Efficacy of non-invasive brain stimulation combined with constraint-induced movement therapy on upper extremity function in patients who had a stroke: protocol for a systematic review and meta-analysis of randomised controlled trials



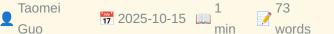
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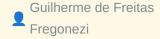
TDCS TACS TRNS

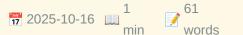
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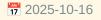
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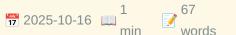
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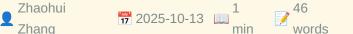
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# Prefrontal activation in bipolar and unipolar depression patients in the letter fluency tasks and category fluency tasks: a functional near-infrared spectroscopy study









Summary: CONCLUSION: Our findings indicate that the LFT elicits more extensive prefrontal activation, with differential engagement of the VLPFC in BD compared to UD. These results suggest potential neuroimaging biomarkers for distinguishing between UD and BD, while also providing insights into the neural sub...

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## Neural predictors of hidden, persistent psychological states at work









Summary: Common workplace challenges such as feeling overwhelmed, burned out, or disengaged often remain hidden due to fear of judgment or social norms, contributing to rising mental health crises and organizational dysfunction. This study presents a brainbased framework for predicting these hidden and pers...

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# **Dose-Dependent Enhancement of Coordination through Multibrain Transcranial Stimulation: A fNIRS Hyperscanning** Study









**Summary:** Coordination serves as a fundamental driving force in the evolution of human society, and transcranial electrical stimulation (tES) is increasingly recognized for its ability to modulate human coordination. However, the neural mechanisms underlying coordination and whether tES positively influences ...

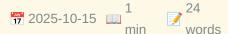
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# Functional connectivity in whole-brain and network analysis differentiates minimally conscious from unresponsive patients: a resting-state fNIRS study









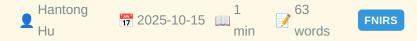


Summary: CONCLUSION: fNIRS could effectively detect abnormal brain network functional connectivity in DOC patients and could provide valuable insights for differentiating MCS and VS/UWS patients.

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Predicting Individual Response to Acupuncture in Sensorineural Tinnitus Using Integrated Functional Near-Infrared Spectroscopy and Machine Learning: Protocol for a Model Development and Validation Study



**Summary:** CONCLUSION: This study represents the first attempt to integrate fNIRS detection with machine learning techniques for predicting acupuncture efficacy in SNT treatment. The methodology addresses several key challenges in acupuncture research through comprehensive data collection and advanced analytic...

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# Online Regulation of Task Difficulty based on Neuro- and Motor-feedback to improve engagement in Visual-motor Task





**Summary:** CONCLUSION: Our findings suggest that the proposed NMF system can enable online neural activity regulation in visual-motor tasks and achieve enhanced integration between cognitive and sensorimotor areas, with the potential to improve the rehabilitation training outcomes.

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# Effect of lower limb mirror visual feedback on cortical activation in healthy subjects: a self-controlled randomized trail











Summary: CONCLUSION: LLMVF increases neural activity in the sensory and motor related areas, indicating that LLMVF can promote more activation of brain functional areas, which verifies the top-down positive effect of LLMVF.

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https://pubmed.ncbi.nlm.nih.gov/41094487/?

# TSFNet: Temporal-Spatial Fusion Network for Hybrid Brain-Computer Interface



**Summary:** Unimodal brain-computer interfaces (BCIs) often suffer from inherent limitations due to the characteristic of using single modalities. While hybrid BCIs combining electroencephalography (EEG) and functional near-infrared spectroscopy (fNIRS) offer complementary advantages, effectively integrating th...

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https://pubmed.ncbi.nlm.nih.gov/41094934/?

Diagnostic Efficacy of Olfactory Function Test Using Functional Near-Infrared Spectroscopy with Machine Learning in Healthy Adults: A Prospective Diagnostic-Accuracy (Feasibility/Validation) Study in Healthy Adults with Algorithm Development



**Summary:** Background/Objectives: The YSK olfactory function (YOF) test is a culturally adapted psychophysical tool that assesses threshold, discrimination, and identification. This study evaluated whether functional near-infrared spectroscopy (fNIRS) synchronized with routine YOF testing, combined with machin...

#### **⊗** Read full article:

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# Enhanced Activation in the Dorsolateral Prefrontal Cortex and Inferior Parietal Lobule During Recovery from Body Dissatisfaction



**Summary:** Previous studies have examined the neural mechanisms of body dissatisfaction. This study aimed to investigate the neural basis of recovery from body dissatisfaction. Sixty-seven young women participated in this study, engaging in a fat talk-a conversation known to induce body dissatisfaction-followe...

#### **⊗** Read full article:

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# Precision TMS through the integration of neuroimaging and machine learning: optimizing stimulation targets for personalized treatment



**Summary:** Transcranial Magnetic Stimulation (TMS), a non-invasive neuromodulation technique based on electromagnetic induction, modulates cortical excitability by inducing currents with a magnetic field. TMS has demonstrated significant clinical potential in the treatment of various neuropsychiatric disorders...

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+e462414

# A time-frequency feature fusion-based deep learning network for SSVEP frequency recognition

Jijun 1 62
Tong min words

BRAIN COMPUTER INTERFACE

Summary: INTRODUCTION: Steady-state visual evoked potential (SSVEP) has emerged as a pivotal branch in brain-computer interfaces (BCIs) due to its high signal-to-noise ratio (SNR) and elevated information transfer rate (ITR). However, substantial inter-subject variability in electroencephalographic (EEG) sig...

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# Participant Engagement, Epistemic Injustice, and Early-Phase **Implanted Neural Device Research**

Ashley Feinsinger

1 2025-10-15 min 66 words

**BRAIN COMPUTER INTERFACE** 

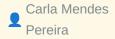
Summary: In recent years, participant engagement initiatives in research on implanted neural devices have significantly increased. However, there remains little consensus on the motivations, goals, and best practices for engagement efforts. Drawing on the concept of participatory epistemic injustice, we argu...

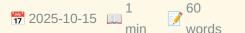
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# **Recommendations for Combining Brain-Computer Interface,** Motor Imagery, and Virtual Reality in Upper Limb Stroke **Rehabilitation: Qualitative Participatory Design Study**







BRAIN COMPUTER INTERFACE

Summary: CONCLUSIONS: Current results contribute to establishing clear guidelines on patient selection, task design, intervention structuring, motivation factors, and tailoring of sensory feedback. This framework presents a foundation for optimal implementation of VR-BCI-based interventions that associate MI...

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## An EEG-based Imagined Speech Database for comparing **Paradigm Designs**

Luz María Alonso-Valerdi 1 2025-10-15 min words

Summary: Brain-computer interfaces (BCIs) attempt to establish a connection between the human mind and a computer system. While recent computational advances continue to improve these interfaces, human factors have been overlooked. Factors such as fatigue and attention play a key role in brain signal modulat...

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# **Passive Brain-Computer Interface Using Textile-Based** Electroencephalography

Sujoy Ghosh Hajra

1 2025-10-16 min 65 words





BRAIN COMPUTER INTERFACE

Summary: Background: Passive brain-computer interface (pBCI) systems use a combination of electroencephalography (EEG) and machine learning (ML) to evaluate a user's cognitive and physiological state, with increasing applications in both clinical and non-clinical scenarios. pBCI systems have been limited by ...

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Xiaoyang
Yuan

1
2025-10-16 min

63
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# **Motor Imagery Acquisition Paradigms: In the Search to Improve Classification Accuracy**

Guger

1 71 min words

BRAIN COMPUTER INTERFACE

Summary: In recent years, advances in medicine have been evident thanks to technological growth and interdisciplinary research, which has allowed the integration of knowledge, for example, of engineering into medical fields. This integration has generated developments and new methods that can be applied in a...

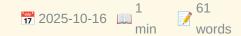
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# Investigation of the Prognostic Value of Novel Laboratory Indices in Patients with Sepsis in an Intensive Care Unit: A Retrospective Observational Study





BRAIN COMPUTER INTERFACE

**Summary:** Background: This study aimed to evaluate the prognostic value of some novel laboratory indices in intensive care unit (ICU)-hospitalized sepsis patients. Methods: This retrospective, observational study included 400 patients with sepsis. The indices studied were the C-reactive protein/albumin ratio ...

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+e462414

# Effectiveness of Electroencephalographic Neurofeedback for Parkinson's Disease: A Systematic Review and Meta-Analysis







BRAIN COMPUTER INTERFACE

Summary: Background: Electroencephalographic (EEG) neurofeedback training is gaining traction as a non-pharmacological treatment option for Parkinson's disease (PD). This paper reports the first pre-registered, integrated systematic review and meta-analysis of studies examining the effects of EEG neurofeedba...

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# **Psychometric properties of the Chinese version of Nightmare** Distress Questionnaire in adolescents with psychiatric disorders.





DREAMING

Summary: Nightmare Distress Questionnaire (NDQ) is commonly used to assess nightmare distress. The psychometric properties of the Chinese version of NDQ (NDQ-CV) have been shown to be satisfactory in the general population of Chinese adolescents. This study aims to evaluate the psychometric properties of NDQ...



http://doi.org/10.1037/drm0000297

#### Assessing attitudes toward dream incubation: A new scale.

2025-03-06 min 81 DREAMING

**Summary:** This study aims to develop the Dream Incubation Attitude Scale for assessing attitudes toward dream incubation. The Dream Incubation Attitude Scale underwent psychometric testing based on responses drawn from 109 Hong Kong participants. This resulted in a three-factor structure comprising self-effic...

http://doi.org/10.1037/drm0000306

# Flying dreams stimulated by targeted movement and sound: Art and science in the dream hotel.



**Summary:** We present Dream Hotel Room 1, a sculptural artwork by Carsten Höller (with Adam Haar Horowitz) that uses dream engineering techniques to induce flying dreams. Dreams of flying are an exceptional experience; even years after their occurrence, people report these remain some of the most meaningful an...

**Read full article:** 

http://doi.org/10.1037/drm0000308

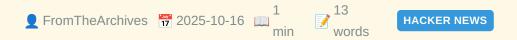
#### Nightmare disorder in women.



**Summary:** The aim of this study is to identify the short-term proximate triggers and effects of nightmares in adult women. In total, 85 females and 29 males participated in a 2-week intensive longitudinal assessment of mood, stress, social conflict, and sleep architecture measures. Sleep architecture was moni...

http://doi.org/10.1037/drm0000309

# Silicon Valley's capture of our political institutions is all but complete

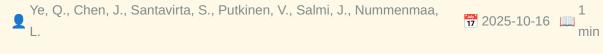


**Summary:** Article URL: <a href="https://www.bloodinthemachine.com/p/silicon-valleys-capture-of-our-political">https://www.bloodinthemachine.com/p/silicon-valleys-capture-of-our-political</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45610540">https://news.ycombinator.com/item?id=45...

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https://www.bloodinthemachine.com/p/silicon-valleys-capture-of-our-political

# Autistic traits modulate neural responses to social signals during natural vision





**Summary:** Impairments in social perception, a hallmark of autism spectrum disorder (ASD), are also evident at subclinical levels in the general population. However, it remains unclear how such variation in autistic traits modulate neural processing of different types of social information. Here, we investigat...



https://www.biorxiv.org/content/10.1101/2025.10.16.682799v1?rss=1

# Identity and functions of monoaminergic neurons in the predatory nematode Pristionchus pacificus reveal nervous system conservation and divergence

Loer, C. M., Yim, H., Geiger, L. T., Ramadan, Y. H., Hampton, M. F., Bernal, D. V., Carstensen, H. R., Morgan, J., Rivard, L., Medina, T., Cook, S. J., Okumura, M., Lightfoot, J. W., Hobert, O., Hong, R. L.

1 102 min words



BIORXIV NEUROSCIENCE

Summary: Changes in neurotransmitter usage in homologous neurons may drive evolutionary adaptations in neural circuits across animal phylogeny. The predatory nematode Pristionchus pacificus can be used as a model system to examine nervous system evolution by comparing neurotransmitter expression with that of...

https://www.biorxiv.org/content/10.1101/2025.10.16.682888v1?rss=1

# Hormonal contraceptive effects on the brain: considering the dual impact of endogenous and exogenous hormone flux

1 0 NATURE NEUROSCIENCE SUBJECTS words





https://www.nature.com/articles/s41386-025-02267-0

#### Poised for action







NATURE NEUROSCIENCE

Summary: Nature Neuroscience, Published online: 06 October 2025; <a href="https://"><a href="https://"></a> www.nature.com/articles/s41593-025-02083-1">doi:10.1038/s41593-025-02083-1</a> p>Poised for action



https://www.nature.com/articles/s41593-025-02083-1

#### Astrocytes make room for microglia



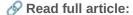






NATURE NEUROSCIENCE

Summary: Nature Neuroscience, Published online: 06 October 2025; <a href="https://"><a href="https://"></a> www.nature.com/articles/s41593-025-02082-2">doi:10.1038/s41593-025-02082-2</a></ p>Astrocytes make room for microglia



https://www.nature.com/articles/s41593-025-02082-2







# Cognitive training improves executive function and selfefficacy in young women with chronic stroke: a pilot study

Lori G. 1 209
Cook min words

FRONTIERS HUMAN NEUROSCIENCE

Summary: IntroductionYoung women are increasingly affected by stroke and often experience persistent executive function deficits that impact global functioning. The purpose of this pilot study was to evaluate the feasibility and effectiveness of a strategybased cognitive training program (Strategic Memory A...

https://www.frontiersin.org/articles/10.3389/fnhum.2025.1677642

# As time goes by: SMA neuromodulation and time perception while watching moving images with different editing styles. A tDCS study

Ruggero 1 201 Eugeni min words

FRONTIERS HUMAN NEUROSCIENCE

**Summary:** Within the framework of a "neurofilmological" approach – which integrates film studies, cognitive psychology, and neuroscience - the present study explored how cinematographic editing influences the viewer's perception of time. Previous behavioral research has shown that editing density affects temp...

Read full article:

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### 4D trajectory prediction for inbound flights



1 177 min words

FRONTIERS NEUROROBOTICS

Summary: IntroductionTo address the challenges of cumulative errors, insufficient modeling of complex spatiotemporal features, and limitations in computational efficiency and generalization ability in 4D trajectory prediction, this paper proposes a high-precision, robust prediction method. Methods A hybrid mod...

https://www.frontiersin.org/articles/10.3389/fnbot.2025.1625074

# **Correction: Pre-training, personalization, and self-calibration:** all a neural network-based myoelectric decoder needs







https://www.frontiersin.org/articles/10.3389/fnbot.2025.1675642

# End-to-end robot intelligent obstacle avoidance method based on deep reinforcement learning with spatiotemporal transformer architecture

FRONTIERS NEUROROBOTICS

Summary: To enhance the obstacle avoidance performance and autonomous decisionmaking capabilities of robots in complex dynamic environments, this paper proposes an end-to-end intelligent obstacle avoidance method that integrates deep reinforcement learning, spatiotemporal attention mechanisms, and a Transfo...

**⊗** Read full article:

https://www.frontiersin.org/articles/10.3389/fnbot.2025.1646336

# The impact of CSF-filled cavities on scalp EEG and its **implications**

Maria Carla

Piastra

1

64

words

OOSTENVELD ROBERT

Summary: Previous studies have found electroencephalogram (EEG) amplitude and scalp topography differences between neurotypical and neurological/neurosurgical groups, being interpreted at the cognitive level. However, these comparisons are invariably accompanied by anatomical changes. Critical to EEG are the...

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# Motion-BIDS: an extension to the brain imaging data structure to organize motion data for reproducible research

Julius .

1 72 2024-07-02 min words OOSTENVELD ROBERT

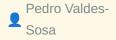
Summary: We present an extension to the Brain Imaging Data Structure (BIDS) for motion data. Motion data is frequently recorded alongside human brain imaging and electrophysiological data. The goal of Motion-BIDS is to make motion data interoperable across different laboratories and with other data modalitie...

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### One hundred years of EEG for brain and behaviour research









OOSTENVELD ROBERT

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# Freezing of gait in Parkinson's disease is related to imbalanced stopping-related cortical activity

Richard J A van

1 65 min words

OOSTENVELD ROBERT

Summary: Freezing of gait, characterized by involuntary interruptions of walking, is a debilitating motor symptom of Parkinson's disease that restricts people's autonomy. Previous brain imaging studies investigating the mechanisms underlying freezing were restricted to scan people in supine positions and yie...

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# The past, present, and future of the brain imaging data structure (BIDS)

Krzysztof J Gorgolewski 1 82 min words

OOSTENVELD ROBERT

Summary: The Brain Imaging Data Structure (BIDS) is a community-driven standard for the organization of data and metadata from a growing range of neuroscience modalities. This paper is meant as a history of how the standard has developed and grown over time. We outline the principles behind the project, the ...

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# Human cortical high-gamma power scales with movement rate in healthy participants and stroke survivors

Fanny Quandt

1 65 min words

OOSTENVELD ROBERT

Summary: Motor cortical high-gamma oscillations (60-90 Hz) occur at movement onset and are spatially focused over the contralateral primary motor cortex. Although high-gamma oscillations are widely recognized for their significance in human motor control, their precise function on a cortical level remains el...

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# NIRS-BIDS: Brain Imaging Data Structure Extended to Near-**Infrared Spectroscopy**



1 70 min words

OOSTENVELD ROBERT

Summary: Functional near-infrared spectroscopy (fNIRS) is an increasingly popular neuroimaging technique that measures cortical hemodynamic activity in a non-invasive and portable fashion. Although the fNIRS community has been successful in disseminating open-source processing tools and a standard file forma...

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# Pseudonymisation of neuroimages and data protection: <em>Increasing access to data while retaining scientific utility</em>



Lyuba
Zehl

Zehl

Zo25-06-26 min

Zostenveld robert



Summary: For a number of years, facial features removal techniques such as 'defacing', 'skull stripping' and 'face masking/blurring', were considered adequate privacy preserving tools to openly share brain images. Scientifically, these measures were already a compromise between data protection requirements a...

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## Cycling on the Freeway: The perilous state of open-source neuroscience software



1 74 min words



OOSTENVELD ROBERT

Summary: Most scientists need software to perform their research (Barker et al., 2020; Carver et al., 2022; Hettrick, 2014; Hettrick et al., 2014; Switters & Osimo, 2019), and neuroscientists are no exception. Whether we work with reaction times, electrophysiological signals, or magnetic resonance imaging data, ...

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### Optimal configuration of on-scalp OPMs with fixed channel counts

Robert 1 69
Oostenveld min words

OOSTENVELD ROBERT

Summary: Recent technological developments have brought optically pumped magnetometers (OPMs) within reach of the larger neuroscientific community. The current state-of-the-art consists of whole-head systems that measure the magnetic field at >100 locations. OPM sensors can be constructed to measure the fiel...

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#### **Lightweight GAN for Restoring Blurred Images to Enhance** Citrus Detection

Pei 1 66 Wang words

**LOW VISION** 

Summary: Image blur is a major factor that degrades object detection in agricultural applications, particularly in orchards where crop occlusion, leaf movement, and camera shake frequently reduce image quality. This study proposed a lightweight generative adversarial network, AGG-DeblurGAN, to address non-un...

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# Opportunistic Eye Disease Screening in Mazovia, Poland: **Lessons from a Local Government Program: "Good Vision for** Mazovians"

Radosław

1 2025-10-16 min 68 Low VISION

Summary: Background: Vision loss due to chronic eye diseases remains a significant public health challenge. Early detection through screening programs may reduce the burden of vision loss. This study aimed to assess the detection rate of eye diseases (glaucoma, AMD, and diabetic retinopathy), including those...

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### Interplay of Modifiable and Non-Modifiable Risk Factors for **Diabetes Mellitus in Saudi Adults**

Ibrahim M Gosadi

1 69 min words

LOW VISION

Summary: Background/Objectives: Diabetes Mellitus (DM) remains a critical public health issue in Saudi Arabia, shaped by complex interactions among genetic, lifestyle, and sociodemographic factors. This study explores interplay of modifiable and non-modifiable determinants of DM among Saudi adults. Methods: ...

#### Read full article:

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# Which Physical Therapy Intervention Is Most Effective in **Reducing Secondary Lymphedema Associated with Breast Cancer? A Systematic Review and Network Meta-Analysis**







Summary: Background: Breast cancer-related lymphedema (BCRL) is a common complication that impairs function and quality of life (QoL). The comparative effectiveness of physical therapy interventions (PTIs) remains unclear. This systematic review and network meta-analysis (NMA) was conducted to identify the m...

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# Visual Function Characteristics in <em>STXBP1</em> **Epileptic Encephalopathy Patients**







Summary: Background: The goal of the study was to describe the visual function characteristics of children with developmental epileptic encephalopathy resulting from mutations in the STXBP1 gene. Methods: The study included 26 consecutive patients from the Polish STXBP1 population (11 male and 16 female; mea...

#### Read full article:

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# Fully Automated Segmentation of Cervical Spinal Cord in Sagittal MR Images Using Swin-Unet Architectures

Utku Şenol

1 67 min words

Summary: Background/Objectives: The spinal cord is a critical component of the central nervous system that transmits neural signals between the brain and the body's peripheral regions through its nerve roots. Despite being partially protected by the vertebral column, the spinal cord remains highly vulnerable...

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# **Monitoring Night-Time Activity Patterns of Laying Hens in** Response to Poultry Red Mite Infestations Using Night-Vision Cameras



1 73 min words





LOW VISION

Summary: The poultry red mite (PRM) feeds on hens' blood at night, disrupting sleep, harming welfare, and reducing productivity. Effective control may lie in dynamic Integrated Pest Management (IPM), which relies on routine monitoring and adaptation to farm conditions. This study investigated how PRM infesta...

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# Clinical Potential of Essential Oils: Cytotoxicity, Selectivity Index, and Efficacy for Combating Gram-Positive ESKAPE Pathogens



**Summary:** (1) Background: Essential oils (EOs) have emerged as promising antibacterial agents due to their broad-spectrum activity and low risk of resistance development. Therefore, this review aimed to assess the effectiveness of EOs against Gram-positive ESKAPE pathogens, and to evaluate their safety and to...

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https://pubmed.ncbi.nlm.nih.gov/41097295/?

# **Artificial Intelligence-Enhanced Liquid Biopsy and Radiomics** in Early-Stage Lung Cancer Detection: A Precision Oncology **Paradigm**

Shivaram P Arunachalam

1 57 Low vision min words

Summary: CONCLUSION: The integration of AI with liquid biopsy and radiomics holds transformative potential for early lung cancer detection. This non-invasive, scalable, and individualized diagnostic paradigm could significantly reduce lung cancer mortality through timely and targeted interventions. As techno...

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# **One-Hot Multi-Level Leaky Integrate-and-Fire Spiking Neural Networks for Enhanced Accuracy-Latency Tradeoff**









Summary: Spiking neural networks (SNNs) hold significant promise as energy-efficient alternatives to conventional artificial neural networks (ANNs). However, SNNs require computations across multiple timesteps, resulting in increased latency, heightened energy consumption, and additional memory access overhe...

#### Read full article:

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# The taste of trigeminal sensations: relation between taste, lingual tactile acuity, and spicy perception in patients with taste dysfunction

Thomas
Hummel

Thomas

Tactile Acuity

Thomas

Summary: In the oral cavity, oral stereognosis and chemesthesis refer to the abilities to recognize shapes and detect noxious substances, respectively, through various receptors distributed on the tongue. The absence of standardized methods to assess oral somatosensory perception has led to a lack of consens...

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# **Measuring the Distribution of Tactile Acuity at the Index Finger and Thumb Fingertips**

Hiroyuki

1 75
min words

TACTILE ACUITY

Summary: In our day-to-day activities, we utilize not only the pads of our fingers but also the sides and hemispherical tips when manipulating objects. For teleoperation systems to replicate these real-life interactions, tactile sensation must be presented and distributed across the entire fingertip. Thus, u...

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# Optimizing Vibrotactile Feedback for Sensory Substitution in the Thigh: Spatial Acuity and Frequency Characteristics

Leah R

Bent

1

2025-06-27

min

69

words

TACTILE ACUITY

**Summary:** Amputation of a lower limb not only affects mobility but also interferes with sensory feedback, leading to an elevated risk of falls among individuals living with amputation. Sensory substitution, achieved through tactile displays embedded in transfemoral prosthetic sockets, presents a promising non...

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# Directional vibro-tactile hazard warnings for drivers with vision impairments

Alex R

Bowers

1

80

min

words

TACTILE ACUITY

Summary: Vision impairment may delay responses to hazards when driving. In a proof-ofconcept driving simulator study, we evaluated a hazard warning device designed for vision impaired drivers. Three groups participated: 11 persons with central vision loss (CVL; median age 60 years), 12 with homonymous field...

#### 

https://pubmed.ncbi.nlm.nih.gov/40601880/?

## Sensitivity and vagal reactivity to C-tactile-mediated affective touch in mild cognitive impairment due to Alzheimer's disease







Summary: BackgroundC-tactile (CT) afferents preferentially activate in response to slow caress-like touch, evoking a diffuse pleasant sensation and promoting autonomic regulation. According to Braak's classic model, the neurodegenerative process in Alzheimer's disease (AD) only affects somatosensory cortices...

#### **⊗** Read full article:

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# Differences in tactile grid localization accuracy between people with back pain compared to individuals without pain









**Summary:** OBJECTIVES: The study aimed to investigate the grid localization test (GLT) between patients with lower back pain and those without back pain.

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https://pubmed.ncbi.nlm.nih.gov/40850311/?

# **Eye Drop Instillation Success and Hand Function in Adults** with Glaucoma: A Pilot Study

Paula Anne Newman-Casev

1 74 TACTILE ACUITY words

Summary: CONCLUSIONS: Despite hand function deficits, in this exploratory pilot study, adults with glaucoma demonstrated eye drop instillation success comparable to those without glaucoma, though with higher rates of bottle tip contact with the eye, skin, or eyelashes, suggesting an increased risk of potenti...

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# Functional evidence for early origin of tactile acuity in the vertebrate somatosensory system

Sviatoslav N Bagriantsev

1 2025-09-13 min 58 words

TACTILE ACUITY

Summary: Mammals and reptiles possess a sophisticated somatosensory system for precise tactile discrimination via mechanosensory end-organs, such as Meissner and Pacinian corpuscles and others. These structures detect sustained pressure, velocity, and vibrations, thereby facilitating nuanced environmental in...

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https://pubmed.ncbi.nlm.nih.gov/40945511/?

# The coarse mental map of the breast is anchored on the nipple

Charles M

Greenspon

1

86

words

TACTILE ACUITY

Summary: Touch plays a key role in our perception of our body and shapes our interactions with the world, from the objects we manipulate to the people we touch. While the tactile sensibility of the hand has been extensively characterized, much less is known about touch on other parts of the body. Despite the...

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# **Haptic Feedback Systems for Lower-Limb Prosthetic** Applications: A Review of System Design, User Experience, and Clinical Insights









TACTILE ACUITY

Summary: Systems presenting haptic information have emerged as an important technological advance in assisting individuals with sensory impairments or amputations, where the aim is to enhance sensory perception or provide sensory substitution through tactile feedback. These systems provide information on lim...

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HACKER NEWS

Summary: <a href="https://news.ycombinator.com/item?id=45610523">Comments</a>



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## I Bypassed Amazon's Kindle Web DRM Because Their App **Sucked**





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https://blog.pixelmelt.dev/kindle-web-drm/

## I Bypassed Amazon's Kindle Web DRM Because Their App Sucked

pixelmelt 7 2025-10-16 min 13 HACKER NEWS

**Summary:** Article URL: <a href="https://blog.pixelmelt.dev/kindle-web-drm/">https://blog.pixelmelt.dev/kindle-web-drm/</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45610226">https://news.ycombinator.com/item?id=45610226</a> Points: 32 # Comments: 2

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#### **Cloudflare Sandbox SDK**

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#### **Hacker News – The Good Parts**

smartmic 7 2025-10-16 min 13 HACKER NEWS

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https://smartmic.bearblog.dev/why-hacker-news/

# Speculating a Tactile Grammar: Toward Task-Aligned Chart Design for Non-Visual Perception

Areen Khalaila, Dylan

2025-10-16 min 172 words

ARXIV CS HC

**Summary:** arXiv:2510.13731v1 Announce Type: new Abstract: Tactile graphics are often adapted from visual chart designs, yet many of these encodings do not translate effectively to non-visual exploration. Blind and low-vision (BLV) people employ a variety of physical strategies such as measuring lengths with ...

# Smart UX-design for Rescue Operations Wearable - A Knowledge Graph Informed Visualization Approach for Information Retrieval in Emergency Situations

Mubaris Nadeem, Johannes Zenkert, Christian Weber, Madjid Fathi, Muhammad Hamza

1 2025-10-16 min 85 words words

**Summary:** arXiv:2510.13539v1 Announce Type: new Abstract: This paper presents a knowledge graph-informed smart UX-design approach for supporting information retrieval for a wearable, providing treatment recommendations during emergency situations to health professionals. This paper describes requirements tha...

**⊗** Read full article:

https://arxiv.org/abs/2510.13539

# Adapting to the User: A Systematic Review of Personalized Interaction in VR

Tangyao Li, Yitong Zhu, Hai-Ning Liang, Yuyang Wang

7 2025-10-16 min 169 words

ARXIV CS HC

**Summary:** arXiv:2510.13123v1 Announce Type: new Abstract: As virtual reality (VR) systems become increasingly more advanced, they are likewise expected to respond intelligently and adapt to individual user states, abilities, and preferences. Recent work has explored how VR can be adapted and tailored to indi...

# **Unmasking Hiring Bias: Platform Data Analysis and Controlled Experiments on Bias in Online Freelance Marketplaces via RAG-LLM Generated Contents**

Wugeng Zheng, Guohou

1 234 min words

ARXIV CS HC

Summary: arXiv:2510.13091v1 Announce Type: new Abstract: Online freelance marketplaces, a rapidly growing part of the global labor market, are creating a fair environment where professional skills are the main factor for hiring. While these platforms can reduce bias from traditional hiring, the personal inf...

**⊗** Read full article:

https://arxiv.org/abs/2510.13091

## Deliberate Lab: A Platform for Real-Time Human-Al Social **Experiments**

Crystal Qian, Vivian Tsai, Michael Behr, Nada Hussein, L\'eo Laugier, Nithum Thain, Lucas

1 147 arxiv cs hc



Summary: arXiv:2510.13011v1 Announce Type: new Abstract: Social and behavioral scientists increasingly aim to study how humans interact, collaborate, and make decisions alongside artificial intelligence. However, the experimental infrastructure for such work remains underdeveloped: (1) few platforms support...

# Developing and Validating the Arabic Version of the Attitudes Toward Large Language Models Scale

Basad Barajeeh, Ala Yankouskaya, Sameha AlShakhsi, Chun Sing Maxwell Ho, Guandong Xu, Raian Ali



**Summary:** arXiv:2510.13009v1 Announce Type: new Abstract: As the use of large language models (LLMs) becomes increasingly global, understanding public attitudes toward these systems requires tools that are adapted to local contexts and languages. In the Arab world, LLM adoption has grown rapidly with both gl...



https://arxiv.org/abs/2510.13009

# Deep Learning-Based Visual Fatigue Detection Using Eye Gaze Patterns in VR

Numan Zafar, Johnathan Locke, Shafique Ahmad Chaudhry



ARXIV CS HC

**Summary:** arXiv:2510.12994v1 Announce Type: new Abstract: Prolonged exposure to virtual reality (VR) systems leads to visual fatigue, impairs user comfort, performance, and safety, particularly in high-stakes or long-duration applications. Existing fatigue detection approaches rely on subjective questionnair...

# **Behavioral Biometrics for Automatic Detection of User** Familiarity in VR

Numan Zafar, Priyo Ranjan Kundu Prosun, Shafique Ahmad Chaudhry

1 2025-10-16 min



ARXIV CS HC

Summary: arXiv:2510.12988v1 Announce Type: new Abstract: As virtual reality (VR) devices become increasingly integrated into everyday settings, a growing number of users without prior experience will engage with VR systems. Automatically detecting a user's familiarity with VR as an interaction medium enable...



https://arxiv.org/abs/2510.12988

# TaskAudit: Detecting Functiona11ity Errors in Mobile Apps via Agentic Task Execution

Mingyuan Zhong, Xia Chen, Davin Win Kyi, Chen Li, James Fogarty, Jacob O.





Summary: arXiv:2510.12972v1 Announce Type: new Abstract: Accessibility checkers are tools in support of accessible app development and their use is encouraged by accessibility best practices. However, most current checkers evaluate static or mechanically-generated contexts, failing to capture common accessi...



# **Changing Oneself by Teaching Others? Exploring the** Prot\'eg\'e Effect in Digital Stress Self-Regulation

Sameha Alshakhsi, Ala Yankouskaya, Dena Al-Thani, Raian

1 2025-10-16 min

205 words

ARXIV CS HC

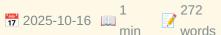
Summary: arXiv:2510.12944v1 Announce Type: new Abstract: The prot\'eg\'ee effect suggests that individuals learn more effectively when they teach a subject. While this has shown potential for acquiring knowledge and skills, can it also support acquiring a new behaviour? This study evaluated a prot\'eg\'e-ba...



https://arxiv.org/abs/2510.12944

# Spike-frequency and h-current based adaptation are dynamically equivalent in a Wilson-Cowan field model

Ronja Str\"omsd\"orfer, Klaus Obermayer





**ARXIV QBIO NC** 

Summary: arXiv:2510.08436v3 Announce Type: replace-cross Abstract: During slow-wave sleep, the brain produces traveling waves of slow oscillations (SOs; \$\leq 2\$ Hz), characterized by the propagation of alternating high- and low-activity states. The question of internal mechanisms that modulate traveling wa...

# Of Mice and Machines: A Comparison of Learning Between Real World Mice and RL Agents

Shuo Han, German Espinosa, Junda Huang, Daniel A. Dombeck, Malcolm A. MacIver, Bradly C. Stadie

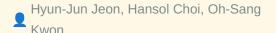


**Summary:** arXiv:2505.12204v3 Announce Type: replace-cross Abstract: Recent advances in reinforcement learning (RL) have demonstrated impressive capabilities in complex decision-making tasks. This progress raises a natural question: how do these artificial systems compare to biological agents, which have been...



https://arxiv.org/abs/2505.12204

# Attractive and Repulsive Perceptual Biases Naturally Emerge in Generative Adversarial Inference





ARXIV QBIO NC

**Summary:** arXiv:2507.19944v2 Announce Type: replace Abstract: Perceptual estimates exhibit a reversal in bias depending on uncertainty: they shift toward prior expectations under high stimulus noise, but away from them when sensory noise dominates. The normative framework of a Bayesian observer model can acc...

# **Scaling Vision Transformers for Functional MRI with Flat** Maps

Connor Lane, Daniel Z. Kaplan, Tanishq Mathew Abraham, Paul S. Scotti

1 2025-10-16 min

147 words

ARXIV QBIO NC

Summary: arXiv:2510.13768v1 Announce Type: cross Abstract: A key question for adapting modern deep learning architectures to functional MRI (fMRI) is how to represent the data for model input. To bridge the modality gap between fMRI and natural images, we transform the 4D volumetric fMRI data into videos of...

https://arxiv.org/abs/2510.13768

### **Data-Driven Reduced Modeling of Recurrent Neural Networks**

Alice Marraffa, Renate Krause, Valerio Mante, George Haller





ARXIV QBIO NC

Summary: arXiv:2510.13519v1 Announce Type: cross Abstract: Artificial Recurrent Neural Networks (RNNs) are widely used in neuroscience to model the collective activity of neurons during behavioral tasks. The high dimensionality of their parameter and activity spaces, however, often make it challenging to in...

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# Jacobian-Based Interpretation of Nonlinear Neural Encoding Model

Xiaohui Gao, Haoran Yang, Yue Cheng, Mengfei Zuo, Yiheng Liu, Peiyang Li, Xintao Hu

1 192 ARXIV QBIO NC min words

**Summary:** arXiv:2510.13688v1 Announce Type: new Abstract: In recent years, the alignment between artificial neural network (ANN) embeddings and blood oxygenation level dependent (BOLD) responses in functional magnetic resonance imaging (fMRI) via neural encoding models has significantly advanced research on ...

https://arxiv.org/abs/2510.13688

### Bifurcation of spiking oscillations from a center in resonateand-fire neurons

Oleg Makarenkov, Marianne Bezaire, Michael

176 words

ARXIV QBIO NC

**Summary:** arXiv:2510.13156v1 Announce Type: new Abstract: The theta rhythm is important for many cognitive functions including spatial processing, memory encoding, and memory recall. The information processing underlying these functions is thought to rely on consistent, phase-specific spiking throughout a th...

# Traumatic brain injury exacerbates alcohol consumption and neuroinflammation with decline in cognition and cholinergic activity



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https://www.nature.com/articles/s41398-025-03650-7

# Evaluation of implicit motor learning across body segments in Parkinson's disease vs. healthy controls



https://www.nature.com/articles/s41598-025-21321-x

# Targeted hip abductor fatigue alters trunk and lower limb biomechanics during Single-Leg landing



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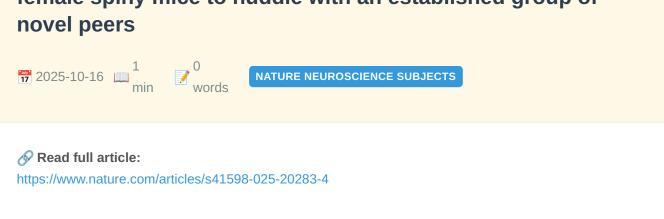
https://www.nature.com/articles/s41598-025-20279-0

Innate spectral preferences and aversive visual learning reveal wavelength-dependent preferences and discrimination in Drosophila melanogaster

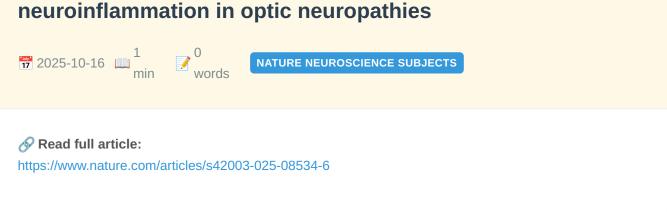


https://www.nature.com/articles/s41598-025-19946-z

Inhibition of the lateral hypothalamus emboldens adult female spiny mice to huddle with an established group of novel peers



**OPTN** protects retinal ganglion cells and ameliorates neuroinflammation in optic neuropathies



# Convolutional neural network based system for fully automatic FLAIR MRI segmentation in multiple sclerosis diagnosis



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https://www.nature.com/articles/s41598-025-14112-x

# Precision TMS through the integration of neuroimaging and machine learning: optimizing stimulation targets for personalized treatment



**Summary:** Transcranial Magnetic Stimulation (TMS), a non-invasive neuromodulation technique based on electromagnetic induction, modulates cortical excitability by inducing currents with a magnetic field. TMS has demonstrated significant clinical potential in the treatment of various neuropsychiatric disorders...

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# A time-frequency feature fusion-based deep learning network for SSVEP frequency recognition

Jijun 1 62
Tong min words

BRAIN COMPUTER INTERFACE

Summary: INTRODUCTION: Steady-state visual evoked potential (SSVEP) has emerged as a pivotal branch in brain-computer interfaces (BCIs) due to its high signal-to-noise ratio (SNR) and elevated information transfer rate (ITR). However, substantial inter-subject variability in electroencephalographic (EEG) sig...

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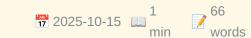
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# Participant Engagement, Epistemic Injustice, and Early-Phase **Implanted Neural Device Research**







**BRAIN COMPUTER INTERFACE** 

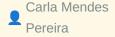
Summary: In recent years, participant engagement initiatives in research on implanted neural devices have significantly increased. However, there remains little consensus on the motivations, goals, and best practices for engagement efforts. Drawing on the concept of participatory epistemic injustice, we argu...

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# **Recommendations for Combining Brain-Computer Interface,** Motor Imagery, and Virtual Reality in Upper Limb Stroke **Rehabilitation: Qualitative Participatory Design Study**







BRAIN COMPUTER INTERFACE

Summary: CONCLUSIONS: Current results contribute to establishing clear guidelines on patient selection, task design, intervention structuring, motivation factors, and tailoring of sensory feedback. This framework presents a foundation for optimal implementation of VR-BCI-based interventions that associate MI...

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## An EEG-based Imagined Speech Database for comparing **Paradigm Designs**

Luz María Alonso-Valerdi 1 2025-10-15 min words

Summary: Brain-computer interfaces (BCIs) attempt to establish a connection between the human mind and a computer system. While recent computational advances continue to improve these interfaces, human factors have been overlooked. Factors such as fatigue and attention play a key role in brain signal modulat...

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# **Passive Brain-Computer Interface Using Textile-Based** Electroencephalography

Sujoy Ghosh Hajra

1 2025-10-16 min 65 words



BRAIN COMPUTER INTERFACE

Summary: Background: Passive brain-computer interface (pBCI) systems use a combination of electroencephalography (EEG) and machine learning (ML) to evaluate a user's cognitive and physiological state, with increasing applications in both clinical and non-clinical scenarios. pBCI systems have been limited by ...

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# TSFNet: Temporal-Spatial Fusion Network for Hybrid Brain-**Computer Interface**

Xiaoyang
Yuan

1
2025-10-16 min

63
BRAIN COMPUTER INTERFACE

Summary: Unimodal brain-computer interfaces (BCIs) often suffer from inherent limitations due to the characteristic of using single modalities. While hybrid BCIs combining electroencephalography (EEG) and functional near-infrared spectroscopy (fNIRS) offer complementary advantages, effectively integrating th...

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# **Motor Imagery Acquisition Paradigms: In the Search to Improve Classification Accuracy**



1 71 min words





BRAIN COMPUTER INTERFACE

Summary: In recent years, advances in medicine have been evident thanks to technological growth and interdisciplinary research, which has allowed the integration of knowledge, for example, of engineering into medical fields. This integration has generated developments and new methods that can be applied in a...

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# Investigation of the Prognostic Value of Novel Laboratory Indices in Patients with Sepsis in an Intensive Care Unit: A Retrospective Observational Study





BRAIN COMPUTER INTERFACE

**Summary:** Background: This study aimed to evaluate the prognostic value of some novel laboratory indices in intensive care unit (ICU)-hospitalized sepsis patients. Methods: This retrospective, observational study included 400 patients with sepsis. The indices studied were the C-reactive protein/albumin ratio ...

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# Effectiveness of Electroencephalographic Neurofeedback for Parkinson's Disease: A Systematic Review and Meta-Analysis







BRAIN COMPUTER INTERFACE

Summary: Background: Electroencephalographic (EEG) neurofeedback training is gaining traction as a non-pharmacological treatment option for Parkinson's disease (PD). This paper reports the first pre-registered, integrated systematic review and meta-analysis of studies examining the effects of EEG neurofeedba...

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# Impact of childhood trauma on dreams in adulthood: An **Argentine survey.**





DREAMING

**Summary:** The aim of this study was to assess whether participants who present more frequently with nightmares or distressing dreams have had traumatic experiences in their childhood and their relationship with current personality traits. Three instruments were administered to a sample of 446 adults from the ...

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### State of Al Report 2025





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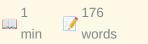


https://www.stateof.ai/

# Hyperexcitability in Alzheimers Disease triggers a compensatoryneuroprotective response via TREK1

Mitra, T., Bhoi, R., Chakraborty, T., Moharana, A., Manoj, V., Rawal, H., Ghatak,

2025-10-16



BIORXIV NEUROSCIENCE

Summary: Alzheimers Disease (AD) is marked by early hippocampal and neocortical accumulation of amyloid-beta 42 oligomers, driving neuronal hyperactivity and synaptic dysfunction years before symptom onset. While two-pore domain leak potassium channels like TREK1 provide neuroprotection against hyperexcitabi...



https://www.biorxiv.org/content/10.1101/2025.10.16.682816v1?rss=1

# Presynaptic Release Probability Determines the Need for Sleep

Wu, Y., Wierda, K., Vints, K., Huang, Y.-C., Uytterhoeven, V., Loomba, S., Laenen, F., Hoekstra, M., Dyson, M. C., Huang, S., Piao, C., Chen, J., Banala, S., Chen, C.-C., Baz, E.-S., Lavis, L., Dickman, D., Gounko, N. V., Sigrist, S., Verstreken, P., Liu, S.

2025-10-16 min 121 BIORXIV NEUROSCIENCE words

**Summary:** Sleep is universal among animals with synapses, yet the synaptic functions determining the need for sleep remain elusive. By directly measuring synaptic transmission at anatomically defined synapses in Drosophila, we found that synaptic strength remained stable or declined after sleep deprivation in...

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# **Lightweight GAN for Restoring Blurred Images to Enhance Citrus Detection**



**Summary:** Image blur is a major factor that degrades object detection in agricultural applications, particularly in orchards where crop occlusion, leaf movement, and camera shake frequently reduce image quality. This study proposed a lightweight generative adversarial network, AGG-DeblurGAN, to address non-un...

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# Opportunistic Eye Disease Screening in Mazovia, Poland: **Lessons from a Local Government Program: "Good Vision for** Mazovians"

Radosław

1 2025-10-16 min 68 Low VISION

Summary: Background: Vision loss due to chronic eye diseases remains a significant public health challenge. Early detection through screening programs may reduce the burden of vision loss. This study aimed to assess the detection rate of eye diseases (glaucoma, AMD, and diabetic retinopathy), including those...

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## Interplay of Modifiable and Non-Modifiable Risk Factors for **Diabetes Mellitus in Saudi Adults**

Ibrahim M Gosadi

1 69 min words

LOW VISION

Summary: Background/Objectives: Diabetes Mellitus (DM) remains a critical public health issue in Saudi Arabia, shaped by complex interactions among genetic, lifestyle, and sociodemographic factors. This study explores interplay of modifiable and non-modifiable determinants of DM among Saudi adults. Methods: ...

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# Which Physical Therapy Intervention Is Most Effective in **Reducing Secondary Lymphedema Associated with Breast Cancer? A Systematic Review and Network Meta-Analysis**







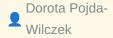
Summary: Background: Breast cancer-related lymphedema (BCRL) is a common complication that impairs function and quality of life (QoL). The comparative effectiveness of physical therapy interventions (PTIs) remains unclear. This systematic review and network meta-analysis (NMA) was conducted to identify the m...

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# Visual Function Characteristics in <em>STXBP1</em> **Epileptic Encephalopathy Patients**







Summary: Background: The goal of the study was to describe the visual function characteristics of children with developmental epileptic encephalopathy resulting from mutations in the STXBP1 gene. Methods: The study included 26 consecutive patients from the Polish STXBP1 population (11 male and 16 female; mea...

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# Fully Automated Segmentation of Cervical Spinal Cord in Sagittal MR Images Using Swin-Unet Architectures

Utku Şenol

1 67 min words

Summary: Background/Objectives: The spinal cord is a critical component of the central nervous system that transmits neural signals between the brain and the body's peripheral regions through its nerve roots. Despite being partially protected by the vertebral column, the spinal cord remains highly vulnerable...

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# **Monitoring Night-Time Activity Patterns of Laying Hens in** Response to Poultry Red Mite Infestations Using Night-Vision Cameras



1 73 min words



LOW VISION

Summary: The poultry red mite (PRM) feeds on hens' blood at night, disrupting sleep, harming welfare, and reducing productivity. Effective control may lie in dynamic Integrated Pest Management (IPM), which relies on routine monitoring and adaptation to farm conditions. This study investigated how PRM infesta...

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# Clinical Potential of Essential Oils: Cytotoxicity, Selectivity Index, and Efficacy for Combating Gram-Positive ESKAPE Pathogens



**Summary:** (1) Background: Essential oils (EOs) have emerged as promising antibacterial agents due to their broad-spectrum activity and low risk of resistance development. Therefore, this review aimed to assess the effectiveness of EOs against Gram-positive ESKAPE pathogens, and to evaluate their safety and to...

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https://pubmed.ncbi.nlm.nih.gov/41097295/?

# **Artificial Intelligence-Enhanced Liquid Biopsy and Radiomics** in Early-Stage Lung Cancer Detection: A Precision Oncology **Paradigm**

Shivaram P Arunachalam

1 57 Low vision min words

Summary: CONCLUSION: The integration of AI with liquid biopsy and radiomics holds transformative potential for early lung cancer detection. This non-invasive, scalable, and individualized diagnostic paradigm could significantly reduce lung cancer mortality through timely and targeted interventions. As techno...

#### **⊗** Read full article:

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utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=1xePBFBNvSlegfqCbvp4 5N3V9WgCNCS63Z1PLmhwJSPGd18QMT&fc=None&ff=20251016162248&v=2.18.0.post9+e462414

# **One-Hot Multi-Level Leaky Integrate-and-Fire Spiking Neural Networks for Enhanced Accuracy-Latency Tradeoff**



1 65 min words



LOW VISION

Summary: Spiking neural networks (SNNs) hold significant promise as energy-efficient alternatives to conventional artificial neural networks (ANNs). However, SNNs require computations across multiple timesteps, resulting in increased latency, heightened energy consumption, and additional memory access overhe...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41098230/?

Efficacy of non-invasive brain stimulation combined with constraint-induced movement therapy on upper extremity function in patients who had a stroke: protocol for a systematic review and meta-analysis of randomised controlled trials



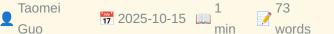
**Summary:** INTRODUCTION: Stroke remains a leading cause of death and long-term disability worldwide, with the majority of survivors experiencing functional impairments, particularly affecting the upper extremities (UEs). Although clinically widespread rehabilitation methods, such as physical and occupational t...

#### 

https://pubmed.ncbi.nlm.nih.gov/41093337/?

# Optimizing cognitive control through the interaction between stimulation intensity and duration in single-site and dual-site **tDCS**







TDCS TACS TRNS

Summary: In the present study, we investigated the relationship between tDCS dosage and the effects of single-site and dual-site tDCS. In Experiment 1, two types of stimulation intensities (1 mA or 1.5 mA) were applied while participants performed a Flanker task. In Experiment 2, two different stimulation du...

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/41093885/?

utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=143rKCPgMwbasrj66gQ1 r1ebioUg42SIGRyVKSoW4m6X-ecQ00&fc=None&ff=20251016162233&v=2.18.0.post9+e462414

# Effects of Transcranial Electrical Stimulation on Intermuscular Coherence in WuShu Sprint and KAN-Based **EMG-Performance Function Fitting**









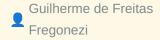
TDCS TACS TRNS

Summary: CONCLUSIONS: Targeted tDCS enhances neuromuscular coordination and sprint velocity, while KAN provides a transparent framework for performance modeling in elite sports.

#### 

https://pubmed.ncbi.nlm.nih.gov/41095063/?

# **High-Definition Transcranial Direct Current Stimulation (HD**tDCS) Therapy in Amyotrophic Lateral Sclerosis: Study **Protocol for a Multicenter Randomized Controlled Clinical** Trial







TDCS TACS TRNS

Summary: Background/Objectives: Amyotrophic Lateral Sclerosis (ALS) is a progressive and fatal neurodegenerative disease characterized by motor neuron loss, muscle weakness, and respiratory dysfunction, often culminating in ventilatory failure. Evidence suggests that High-Definition Transcranial Direct Curre...

#### 

https://pubmed.ncbi.nlm.nih.gov/41095781/?

# **Effectiveness of Electrical Stimulation on Upper Limb Function in Children and Young People with Hemiplegic Cerebral Palsy: A Systematic Review**









Summary: Objectives: This review seeks to evaluate the effectiveness of electrical stimulation (ES) in improving upper limb function in children and young people (CYP) with hemiplegic cerebral palsy (HCP). Methods: A systematic literature search from inception until May 2025 was conducted. Various study desi...

#### 

https://pubmed.ncbi.nlm.nih.gov/41095797/?

# A Comprehensive Evaluation of Consumer Trends and the **Bioactive Content of Extra Virgin Olive Oil: Comparative Insights into Trademarked and Local Products**









TDCS TACS TRNS

Summary: This multidisciplinary comparative study investigates consumption patterns, health-related properties, and quality attributes of trademarked and local extra virgin olive oil (EVOO) samples. It highlights the importance of localization in promoting agricultural sustainability, strengthening regional ...

#### 

https://pubmed.ncbi.nlm.nih.gov/41097552/?

## **Effects of Cerebellar tACS With Gamma Band on Basketball Shooting Skills: A Single-Blind, Randomized Controlled Trial** in College Students With Basketball Experience









Summary: CONCLUSIONS: Our results indicate that 70 Hz tACS over the cerebellum may improve basketball shooting skills. These results provide valuable insights into the practical application of tACS in sports. I The purpose of this study was to determine the effects of cerebellar tACS on basketball shooting s...

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/41097859/?

utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=143rKCPgMwbasrj66gQ1 r1ebioUg42SIGRyVKSoW4m6X-ecQ00&fc=None&ff=20251016162233&v=2.18.0.post9+e462414

## Use of a Vertical Traction Device in the Management of an **Open Abdomen: A Case Report**







TDCS TACS TRNS

**Summary:** A laparostomy procedure, a critical intervention frequently employed in both trauma and non-trauma patients, is a key component of damage control resuscitation. The use of a vertical traction device (VTD), specifically Fasciotens® Abdomen (FTA), is a relatively novel technology that prevents fascial...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41098301/?

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## A Systematic Review of Reporting Adverse Effects **Associated With Transcranial Direct Current Stimulation in Chronic Pain**

Daniela-Viorica
Mosoiu

1 2025-10-16 min 46 words

TDCS TACS TRNS

Summary: CONCLUSIONS: In the present form of reporting AEs of tDCS in clinical studies involving patients with chronic pain, this procedure seems to be safe. Nevertheless, we identified diverse modalities of reporting and assessing AEs, which should raise the need for a standardized procedure in this domain.

#### **⊗** Read full article:

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## **Therapeutic Strategies for Patient Safety**



1 67 min words



TDCS TACS TRNS

Summary: CONCLUSIONS: The development of a health system based on moral and ethical values and oriented toward increasing the quality of life through therapeutic strategies and measures to ensure patient safety, a holistic approach to the patient and the disease, and the development of personalized therapies...

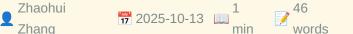
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https://pubmed.ncbi.nlm.nih.gov/41099742/?

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## Prefrontal activation in bipolar and unipolar depression patients in the letter fluency tasks and category fluency tasks: a functional near-infrared spectroscopy study









Summary: CONCLUSION: Our findings indicate that the LFT elicits more extensive prefrontal activation, with differential engagement of the VLPFC in BD compared to UD. These results suggest potential neuroimaging biomarkers for distinguishing between UD and BD, while also providing insights into the neural sub...

#### **⊗** Read full article:

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#### Read full article:

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## **Dose-Dependent Enhancement of Coordination through Multibrain Transcranial Stimulation: A fNIRS Hyperscanning** Study









**Summary:** Coordination serves as a fundamental driving force in the evolution of human society, and transcranial electrical stimulation (tES) is increasingly recognized for its ability to modulate human coordination. However, the neural mechanisms underlying coordination and whether tES positively influences ...

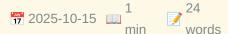
#### **⊗** Read full article:

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## Functional connectivity in whole-brain and network analysis differentiates minimally conscious from unresponsive patients: a resting-state fNIRS study











Summary: CONCLUSION: fNIRS could effectively detect abnormal brain network functional connectivity in DOC patients and could provide valuable insights for differentiating MCS and VS/UWS patients.

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41088235/?

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https://pubmed.ncbi.nlm.nih.gov/41089742/?

utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=1JKSd2KF3MGnV7oFV D2g6PNu7rHRFDsLyCNjKkkf4KHBUA3c8P&fc=None&ff=20251016162208&v=2.18.0.post9+e462414

## Online Regulation of Task Difficulty based on Neuro- and Motor-feedback to improve engagement in Visual-motor Task





**Summary:** CONCLUSION: Our findings suggest that the proposed NMF system can enable online neural activity regulation in visual-motor tasks and achieve enhanced integration between cognitive and sensorimotor areas, with the potential to improve the rehabilitation training outcomes.

#### 

https://pubmed.ncbi.nlm.nih.gov/41091617/?

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## Effect of lower limb mirror visual feedback on cortical activation in healthy subjects: a self-controlled randomized trail











Summary: CONCLUSION: LLMVF increases neural activity in the sensory and motor related areas, indicating that LLMVF can promote more activation of brain functional areas, which verifies the top-down positive effect of LLMVF.

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41094487/?

utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=1JKSd2KF3MGnV7oFV D2g6PNu7rHRFDsLyCNjKkkf4KHBUA3c8P&fc=None&ff=20251016162208&v=2.18.0.post9+e462414

## TSFNet: Temporal-Spatial Fusion Network for Hybrid Brain-Computer Interface



**Summary:** Unimodal brain-computer interfaces (BCIs) often suffer from inherent limitations due to the characteristic of using single modalities. While hybrid BCIs combining electroencephalography (EEG) and functional near-infrared spectroscopy (fNIRS) offer complementary advantages, effectively integrating th...

#### 

https://pubmed.ncbi.nlm.nih.gov/41094934/?

Diagnostic Efficacy of Olfactory Function Test Using Functional Near-Infrared Spectroscopy with Machine Learning in Healthy Adults: A Prospective Diagnostic-Accuracy (Feasibility/Validation) Study in Healthy Adults with Algorithm Development



**Summary:** Background/Objectives: The YSK olfactory function (YOF) test is a culturally adapted psychophysical tool that assesses threshold, discrimination, and identification. This study evaluated whether functional near-infrared spectroscopy (fNIRS) synchronized with routine YOF testing, combined with machin...

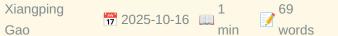
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## **Enhanced Activation in the Dorsolateral Prefrontal Cortex** and Inferior Parietal Lobule During Recovery from Body Dissatisfaction







Summary: Previous studies have examined the neural mechanisms of body dissatisfaction. This study aimed to investigate the neural basis of recovery from body dissatisfaction. Sixty-seven young women participated in this study, engaging in a fat talk-a conversation known to induce body dissatisfaction-followe...

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https://pubmed.ncbi.nlm.nih.gov/41099370/?

utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=1JKSd2KF3MGnV7oFV D2g6PNu7rHRFDsLyCNjKkkf4KHBUA3c8P&fc=None&ff=20251016162208&v=2.18.0.post9+e462414

## **Python as a Configuration Language Using Starlark**







REDDIT PYTHON

Summary: <!-- SC OFF --><div class="md">I wrote an <a href="https://openrun.dev/ blog/starlark/">article</a> about how Pythonic syntax (using Starlark) helps avoids many of the configuration related challenges seen with YAML and other such languages. Let me know any feedback. </div><!-- SC ON --> &#32;...

#### 

https://www.reddit.com/r/Python/comments/108gd22/ python as a configuration language using starlark/

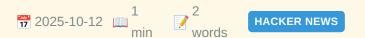
## I built a VS Code extension for uv integration and PEP 723 scripts



**Summary:** <!-- SC\_OFF --> <div class="md"> Hey folks! I've been working on a VS Code extension that brings <a href="https://docs.astral.sh/uv/"> uv</a> integration and <a href="https://peps.python.org/pep-0723/">PEP 723</a> support directly into your editor — making Python script development way more powerful...

https://www.reddit.com/r/Python/comments/108fz6j/i\_built\_a\_vs\_code\_extension\_for\_uv\_integration/

## **Peeking Inside Gigantic Zips with Only Kilobytes**



Summary: <a href="https://news.ycombinator.com/item?id=45556904">Comments</a>

⊗ Read full article:

https://ritiksahni.com/blog/peeking-inside-gigantic-zips-with-only-kilobytes/

## Your data model is your destiny



Summary: <a href="https://news.ycombinator.com/item?id=45583786">Comments</a>

https://notes.mtb.xyz/p/your-data-model-is-your-destiny

## **Benjie's Humanoid Olympic Games**



Summary: <a href="https://news.ycombinator.com/item?id=45609922">Comments</a>

https://generalrobots.substack.com/p/benjies-humanoid-olympic-games

## **Benjie's Humanoid Olympic Games**

**Summary:** Article URL: <a href="https://generalrobots.substack.com/p/benjies-humanoid-olympic-games">https://generalrobots.substack.com/p/benjies-humanoid-olympic-games</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45609922">https://news.ycombinator.com/item?id=45609922</a> ...

https://generalrobots.substack.com/p/benjies-humanoid-olympic-games

## Show HN: We priced basic needs in work hours (global ranking and CSVs)

mickeymounds 2025-10-16 min 13 HACKER NEWS

**Summary:** Article URL: <a href="https://www.thepricer.org/hours-to-afford-essentials-best-and-worst-countries/">https://www.thepricer.org/hours-to-afford-essentials-best-and-worst-countries/</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45609942">https://news.ycombinator.com/item?i...

**Read full article:** 

https://www.thepricer.org/hours-to-afford-essentials-best-and-worst-countries/

## **Retrieving Planned Sample Sizes from AsPredicted Preregistrations**







TWENTY PERCENT STATISTICIAN

#### Summary: &<u>

#### 

http://daniellakens.blogspot.com/2025/06/retrieving-planned-sample-sizes-from.html

## Are meta-scientists ignoring philosophy of science?





TWENTY PERCENT STATISTICIAN

Summary: Are meta-scientists ignoring philosophy of science (PoS)? Are they reinventing the wheel? <a href="https://nomadit.co.uk/conference/metascience2025/p/">https://nomadit.co.uk/conference/metascience2025/p/ 17038">A recent panel at the Metascience conference</a> engaged with this question, and the first sentence of the abstract states "Critics argue t...

#### **Read full article:**

http://daniellakens.blogspot.com/2025/07/are-meta-scientists-ignoring-philosophy.html

## Easily download files from the Open Science Framework with **Papercheck**

noreply@blogger.com (Daniel

3 765 min words

TWENTY PERCENT STATISTICIAN

Summary: Researchers increasingly use the <a href="https://osf.io/">Open Science Framework</a> (OSF) to share files, such as data and code underlying scientific publications, or presentations and materials for scientific workshops. The OSF is an amazing service that has contributed immensely to a changed ...

Read full article:

http://daniellakens.blogspot.com/2025/07/easily-download-files-from-open-science.html

## Applications now being accepted for UC-Davis/SDSU ERP Boot Camp, July 31 – August 9, 2023



1 108 min words



ERP BOOT CAMP

**Summary:** The next 10-day ERP Boot Camp will be held July 31 – August 9, 2023 in San Diego, California. We are now taking applications, which will be due by April 1, 2023. <a href="https://erpinfo.org/summer-boot-camp">Click here</a> for more information.We are currently planning t...

https://erpinfo.org/blog/2021/12/22/applications-2023

## **ERP Decoding for Everyone: Software and Webinar**

2 420 min words

ERP BOOT CAMP

Summary: <strong>You can access the recording </strong><a href="https://" video.ucdavis.edu/media/

Virtual+ERP+Boot+CampA+Decoding+for+Everyone%2C+July+25+2023/1 Imwj6bu0"><strong>l strong></a><strong>.<br/>br />You can access the final PDF of the slides </strong><a href="https://ucdavis.box.com/s/f...

https://erpinfo.org/blog/2023/6/23/decoding-webinar

## **New Papers: Optimal Filter Settings for ERP Research**



2 568 min words





**ERP BOOT CAMP** 

Summary: Zhang, G., Garrett, D. R., & D. R., & Luck, S. J. (in press). Optimal filters for ERP research I: A general approach for selecting filter settings. <em>Psychophysiology</em>. <a href="https://doi.org/10.1111/psyp.14531"><span>https:// doi.org/10.1111/psyp.14531</span></a> [<a href="https://www...

Read full article:

https://erpinfo.org/blog/2024/2/4/optimal-filters

### **Education: Legal Issues**







BRAIN

Summary: The safety concerns and standards shared in other sections provide an initial foundation for legal protections. However, calls for stricter consumer protection laws must accompany the proliferation of neurotech devices. Special privacy laws must be promulgated to ensure "cognitive privacy" (Nita Far...

#### 

https://brain.ieee.org/publications/neuroethics-framework/education/education-legal-issues/educationlegal-issues/

#### **Education: Social and Cultural Issues**







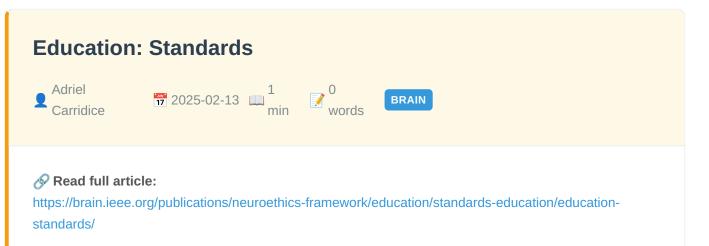


BRAIN

Summary: Devices that therapeutically aid users with cognitive and learning disabilities/ differences should not be equally applied to a general population seeking learning advantages. It must not be assumed that therapies able to improve cognition for mental and cognitive disorders (such as executive control...

#### 

https://brain.ieee.org/publications/neuroethics-framework/education/education-social-and-cultural-issues/ education-social-and-cultural-issues/



# LncRNA HOXA-AS3 drives glioma progression through miR-542-5p-Mediated regulation of HOXA1 and WNT5A signaling



**Summary:** Publication date: 15 November 2025<b>Source:</b> Brain Research, Volume 1867Author(s): Lianxu Cui, Ruiyu He, Haomin Li, Siwei Peng, Meiru Zhang, Zhanchuan Ma, Zaiyu Li

#### 

https://www.sciencedirect.com/science/article/pii/S0006899325005153?dgcid=rss\_sd\_all

## The Spiking Tolman-Eichenbaum Machine: Emergent Spatial and Temporal Coding through Spiking Network Dynamics

Kawahara, D., Fujisawa,

207 2025-10-16 min 207 words

BIORXIV NEUROSCIENCE

Summary: The hippocampal-entorhinal system supports spatial navigation and memory by orchestrating the interaction between grid cells and place cells. While various models have reproduced these patterns, many rely on predefined connectivity or fixed weights and lack mechanisms for learning or biologically re...

https://www.biorxiv.org/content/10.1101/2025.10.16.682754v1?rss=1

## **Attention and Explicit Knowledge Drive Predictive Sharpening in Early Visual Cortex**

Sabio-Albert, M., Richter, D., Fuentemilla, L., Perez-Bellido,

1 2025-10-16 min

**BIORXIV NEUROSCIENCE** 

Summary: Perception is increasingly understood as an inferential process, whereby what we perceive results from the integration of sensory inputs with expectations derived from prior knowledge. Top-down predictions have been shown to alter the encoding of sensory information, from early to late stages of pro...

https://www.biorxiv.org/content/10.1101/2025.10.16.682824v1?rss=1

## searching for job by preparing my own

Zestyclose\_Block5381

1 79 words

REDDIT PYTHON

Summary: <!-- SC OFF --><div class="md">hi,am 35 years old with no prior experience in IT, now am preparing myself as python developer or related jobs. I learnt Python, Numpy, Pandas, Mattplotlib, <a href="http://SQL.Am">SQL.Am</a> still in a process of learning. To get a job now may i know the path to proceed ...

**⊗** Read full article:

https://www.reddit.com/r/Python/comments/108e955/searching\_for\_job\_by\_preparing\_my\_own/

#### This Week in The Journal



1 0 min words

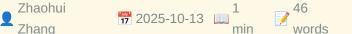


JOURNAL NEUROSCIENCE THIS WEEK

http://www.jneurosci.org/cgi/content/short/45/41/etwij45412025?rss=1

## Prefrontal activation in bipolar and unipolar depression patients in the letter fluency tasks and category fluency tasks: a functional near-infrared spectroscopy study









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https://pubmed.ncbi.nlm.nih.gov/41082670/?

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https://pubmed.ncbi.nlm.nih.gov/41089742/?

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## Online Regulation of Task Difficulty based on Neuro- and Motor-feedback to improve engagement in Visual-motor Task





**Summary:** CONCLUSION: Our findings suggest that the proposed NMF system can enable online neural activity regulation in visual-motor tasks and achieve enhanced integration between cognitive and sensorimotor areas, with the potential to improve the rehabilitation training outcomes.

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## Effect of lower limb mirror visual feedback on cortical activation in healthy subjects: a self-controlled randomized trail











Summary: CONCLUSION: LLMVF increases neural activity in the sensory and motor related areas, indicating that LLMVF can promote more activation of brain functional areas, which verifies the top-down positive effect of LLMVF.

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## TSFNet: Temporal-Spatial Fusion Network for Hybrid Brain-Computer Interface



**Summary:** Unimodal brain-computer interfaces (BCIs) often suffer from inherent limitations due to the characteristic of using single modalities. While hybrid BCIs combining electroencephalography (EEG) and functional near-infrared spectroscopy (fNIRS) offer complementary advantages, effectively integrating th...

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Diagnostic Efficacy of Olfactory Function Test Using Functional Near-Infrared Spectroscopy with Machine Learning in Healthy Adults: A Prospective Diagnostic-Accuracy (Feasibility/Validation) Study in Healthy Adults with Algorithm Development



**Summary:** Background/Objectives: The YSK olfactory function (YOF) test is a culturally adapted psychophysical tool that assesses threshold, discrimination, and identification. This study evaluated whether functional near-infrared spectroscopy (fNIRS) synchronized with routine YOF testing, combined with machin...

#### **⊗** Read full article:

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# Enhanced Activation in the Dorsolateral Prefrontal Cortex and Inferior Parietal Lobule During Recovery from Body Dissatisfaction



**Summary:** Previous studies have examined the neural mechanisms of body dissatisfaction. This study aimed to investigate the neural basis of recovery from body dissatisfaction. Sixty-seven young women participated in this study, engaging in a fat talk-a conversation known to induce body dissatisfaction-followe...

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# Precision TMS through the integration of neuroimaging and machine learning: optimizing stimulation targets for personalized treatment



**Summary:** Transcranial Magnetic Stimulation (TMS), a non-invasive neuromodulation technique based on electromagnetic induction, modulates cortical excitability by inducing currents with a magnetic field. TMS has demonstrated significant clinical potential in the treatment of various neuropsychiatric disorders...

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+e462414

## A time-frequency feature fusion-based deep learning network for SSVEP frequency recognition

Jijun 1 62
Tong min words

BRAIN COMPUTER INTERFACE

Summary: INTRODUCTION: Steady-state visual evoked potential (SSVEP) has emerged as a pivotal branch in brain-computer interfaces (BCIs) due to its high signal-to-noise ratio (SNR) and elevated information transfer rate (ITR). However, substantial inter-subject variability in electroencephalographic (EEG) sig...

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## Participant Engagement, Epistemic Injustice, and Early-Phase **Implanted Neural Device Research**



1 2025-10-15 min 66 words



**BRAIN COMPUTER INTERFACE** 

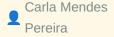
Summary: In recent years, participant engagement initiatives in research on implanted neural devices have significantly increased. However, there remains little consensus on the motivations, goals, and best practices for engagement efforts. Drawing on the concept of participatory epistemic injustice, we argu...

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## **Recommendations for Combining Brain-Computer Interface,** Motor Imagery, and Virtual Reality in Upper Limb Stroke **Rehabilitation: Qualitative Participatory Design Study**







BRAIN COMPUTER INTERFACE

Summary: CONCLUSIONS: Current results contribute to establishing clear guidelines on patient selection, task design, intervention structuring, motivation factors, and tailoring of sensory feedback. This framework presents a foundation for optimal implementation of VR-BCI-based interventions that associate MI...

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## An EEG-based Imagined Speech Database for comparing **Paradigm Designs**

Luz María Alonso-Valerdi 1 2025-10-15 min words

Summary: Brain-computer interfaces (BCIs) attempt to establish a connection between the human mind and a computer system. While recent computational advances continue to improve these interfaces, human factors have been overlooked. Factors such as fatigue and attention play a key role in brain signal modulat...

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## **Passive Brain-Computer Interface Using Textile-Based** Electroencephalography

Sujoy Ghosh Hajra

1 2025-10-16 min 65 words



BRAIN COMPUTER INTERFACE

Summary: Background: Passive brain-computer interface (pBCI) systems use a combination of electroencephalography (EEG) and machine learning (ML) to evaluate a user's cognitive and physiological state, with increasing applications in both clinical and non-clinical scenarios. pBCI systems have been limited by ...

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## TSFNet: Temporal-Spatial Fusion Network for Hybrid Brain-**Computer Interface**

Xiaoyang
Yuan

1
2025-10-16 min

63
BRAIN COMPUTER INTERFACE

Summary: Unimodal brain-computer interfaces (BCIs) often suffer from inherent limitations due to the characteristic of using single modalities. While hybrid BCIs combining electroencephalography (EEG) and functional near-infrared spectroscopy (fNIRS) offer complementary advantages, effectively integrating th...

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## **Motor Imagery Acquisition Paradigms: In the Search to Improve Classification Accuracy**

Guger

1 71 min words





BRAIN COMPUTER INTERFACE

Summary: In recent years, advances in medicine have been evident thanks to technological growth and interdisciplinary research, which has allowed the integration of knowledge, for example, of engineering into medical fields. This integration has generated developments and new methods that can be applied in a...

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# Investigation of the Prognostic Value of Novel Laboratory Indices in Patients with Sepsis in an Intensive Care Unit: A Retrospective Observational Study





BRAIN COMPUTER INTERFACE

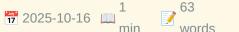
**Summary:** Background: This study aimed to evaluate the prognostic value of some novel laboratory indices in intensive care unit (ICU)-hospitalized sepsis patients. Methods: This retrospective, observational study included 400 patients with sepsis. The indices studied were the C-reactive protein/albumin ratio ...

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+e462414

## Effectiveness of Electroencephalographic Neurofeedback for Parkinson's Disease: A Systematic Review and Meta-Analysis







BRAIN COMPUTER INTERFACE

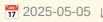
Summary: Background: Electroencephalographic (EEG) neurofeedback training is gaining traction as a non-pharmacological treatment option for Parkinson's disease (PD). This paper reports the first pre-registered, integrated systematic review and meta-analysis of studies examining the effects of EEG neurofeedba...

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### The impact of unemployment on dream content.







DREAMING

Summary: This study examines the relationship between employment status and dream content using a data set of 6,478 dream reports collected from Reddit. We used machine learning to analyze thematic differences between unemployed individuals and a control group. The results revealed that the dreams of unemplo...



http://doi.org/10.1037/drm0000310

## From falling apart to disturbing dreams: A preliminary examination of self-fragmentation and nightmares.

1 122 DREAMING words

**Summary:** Previous theory suggested a relationship between fragmentation of the self-structure and nightmares. This article examines this possibility by providing an overview of the theoretical rationale for their relationship and a preliminary empirical study exploring the relationships between a brief measu...

http://doi.org/10.1037/drm0000296

## Anatomical connectivity-based parcellation of the human orbitofrontal cortex.

1 2025-07-10 min 2222 BEHAVIORAL NEUROSCIENCE

**Summary:** The orbitofrontal cortex (OFC) is critical for learning and decision making, but its organization in terms of anatomical connections to other brain areas is not well understood in humans. Here we used diffusion magnetic resonance imaging and probabilistic tractography to characterize the cortical an...

**Read full article:** 

http://doi.org/10.1037/bne0000628

## A Conspiracy to Kill IE6 (2019)



Summary: <a href="https://news.ycombinator.com/item?id=45608887">Comments</a>

**⊗** Read full article:

https://blog.chriszacharias.com/a-conspiracy-to-kill-ie6

## Show HN: How Useless Are You? A brutally honest skills check

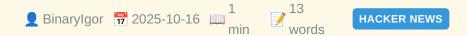


**Summary:** We built this to answer "am I a fit for this role?"after noticing how hard it is to get honest feedback when applying to a YC startup or something else entirely.It's a custom 5-minute challenge that roasts you after.Added a leaderboard for those who want to see how they stack up.Roast...

**Read full article:** 

https://www.howuselessareyou.com

#### **Talent**



**Summary:** Article URL: <a href="https://www.felixstocker.com/blog/talent">https://www.felixstocker.com/blog/talent</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45608456">https://news.ycombinator.com/item?id=45608456">https://news.ycombinator.com/item?id=45608456</a> Points: 6 # Comments: 1

https://www.felixstocker.com/blog/talent

# KF/parabrachial complex PACAP - glutamate pathway to the extended amygdala couples rapid autonomic and delayed endocrine responses to acute hypotension



**BIORXIV NEUROSCIENCE** 

**Summary:** The calyx of Held is a giant axo-somatic synapse classically confined to the auditory brainstem. We recently identified morphologically similar calyx-like terminals in the extended amygdala (EA) that arise from the ventrolateral parabrachial complex and coexpress PACAP, CGRP, VAChT, VGluT1, and VGl...

https://www.biorxiv.org/content/10.1101/2025.10.16.682741v1?rss=1

# Brain-Wide Subnetworks within and between Naturally Socializing Typical and Autism Model Mice

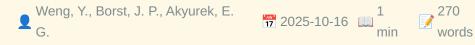
Marmor, O., Terner, R., Khoury, V., Ginzburg, S., Amal, H., Gilad,
A.

147
words
BIORXIV NEUROSCIENCE

**Summary:** Social interaction is inherently asymmetric, requiring coordinated activity between non-homologous brain regions across individuals. However, the brain-wide dynamics underlying such inter-brain coordination remain poorly understood. We used multi-fiber photometry to simultaneously record from 24 bra...

https://www.biorxiv.org/content/10.1101/2025.10.16.682530v1?rss=1

# Sustained alpha oscillations serve attentional prioritization in working memory, not maintenance



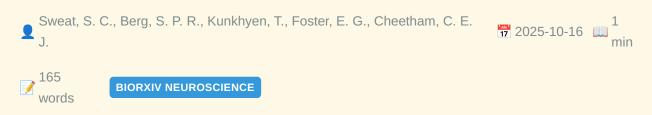
**BIORXIV NEUROSCIENCE** 

**Summary:** Recent theory on the neural basis of working memory (WM) has attributed an important role to "activity-silent" mechanisms, suggesting that sustained neural activity might not be essential in the retention of information. This idea has been challenged by reports of ongoing neural activity in the alph...

Read full article:

https://www.biorxiv.org/content/10.1101/2025.10.16.682668v1?rss=1

# Longitudinal Assessment of Fluorescence Stability Shows Fluorescence Intensity Decreases Over Time: Implications for Fluorescence Microscopy Studies



**Summary:** Immunohistochemistry (IHC) is one of the most widely used techniques across basic, translational, and clinical sciences. Key considerations need to be made to achieve reliable and robust IHC staining, however what has been understudied is the stability of IHC signal intensity over time. Changes in s...



https://www.biorxiv.org/content/10.1101/2025.10.15.682696v1?rss=1

# UHGAN: a dual-phase GAN with Hough-transform constraints for accurate farmland road extraction



**Summary:** IntroductionTraditional methods for farmland road extraction, such as U-Net, often struggle with complex noise and geometric features, leading to discontinuous extraction and insufficient sensitivity. To address these limitations, this study proposes a novel dual-phase generative adversarial network...

## 

https://www.frontiersin.org/articles/10.3389/fnbot.2025.1691300

# UAV-based intelligent traffic surveillance using recurrent neural networks and Swin transformer for dynamic environments



**Summary:** IntroductionUrban traffic congestion, environmental degradation, and road safety challenges necessitate intelligent aerial robotic systems capable of real-time adaptive decision-making. Unmanned Aerial Vehicles (UAVs), with their flexible deployment and high vantage point, offer a promising solution...

#### **⊗** Read full article:

https://www.frontiersin.org/articles/10.3389/fnbot.2025.1681341

# The taste of trigeminal sensations: relation between taste, lingual tactile acuity, and spicy perception in patients with taste dysfunction



**Summary:** In the oral cavity, oral stereognosis and chemesthesis refer to the abilities to recognize shapes and detect noxious substances, respectively, through various receptors distributed on the tongue. The absence of standardized methods to assess oral somatosensory perception has led to a lack of consens...

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# **Measuring the Distribution of Tactile Acuity at the Index Finger and Thumb Fingertips**

Hiroyuki
Kajimoto

75 TACTILE ACUITY words

Summary: In our day-to-day activities, we utilize not only the pads of our fingers but also the sides and hemispherical tips when manipulating objects. For teleoperation systems to replicate these real-life interactions, tactile sensation must be presented and distributed across the entire fingertip. Thus, u...

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# **Optimizing Vibrotactile Feedback for Sensory Substitution in** the Thigh: Spatial Acuity and Frequency Characteristics

Leah R
Bent 1 69
words

TACTILE ACUITY

**Summary:** Amputation of a lower limb not only affects mobility but also interferes with sensory feedback, leading to an elevated risk of falls among individuals living with amputation. Sensory substitution, achieved through tactile displays embedded in transfemoral prosthetic sockets, presents a promising non...

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# Directional vibro-tactile hazard warnings for drivers with vision impairments

Alex R

Bowers

1

2025-07-02

min

80

words

TACTILE ACUITY

Summary: Vision impairment may delay responses to hazards when driving. In a proof-ofconcept driving simulator study, we evaluated a hazard warning device designed for vision impaired drivers. Three groups participated: 11 persons with central vision loss (CVL; median age 60 years), 12 with homonymous field...

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# Sensitivity and vagal reactivity to C-tactile-mediated affective touch in mild cognitive impairment due to Alzheimer's disease



1 64 min words



TACTILE ACUITY

Summary: BackgroundC-tactile (CT) afferents preferentially activate in response to slow caress-like touch, evoking a diffuse pleasant sensation and promoting autonomic regulation. According to Braak's classic model, the neurodegenerative process in Alzheimer's disease (AD) only affects somatosensory cortices...

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# Differences in tactile grid localization accuracy between people with back pain compared to individuals without pain

Eric 1 2025-08-24 min 22 TACTILE ACUITY

**Summary:** OBJECTIVES: The study aimed to investigate the grid localization test (GLT) between patients with lower back pain and those without back pain.

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# **Eye Drop Instillation Success and Hand Function in Adults** with Glaucoma: A Pilot Study



**Summary:** CONCLUSIONS: Despite hand function deficits, in this exploratory pilot study, adults with glaucoma demonstrated eye drop instillation success comparable to those without glaucoma, though with higher rates of bottle tip contact with the eye, skin, or eyelashes, suggesting an increased risk of potenti...

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# Functional evidence for early origin of tactile acuity in the vertebrate somatosensory system

Sviatoslav N Bagriantsev

1 2025-09-13 min 58 TACTILE ACUITY words

Summary: Mammals and reptiles possess a sophisticated somatosensory system for precise tactile discrimination via mechanosensory end-organs, such as Meissner and Pacinian corpuscles and others. These structures detect sustained pressure, velocity, and vibrations, thereby facilitating nuanced environmental in...

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# The coarse mental map of the breast is anchored on the nipple

Greenspon

1 86 min words

**TACTILE ACUITY** 

Summary: Touch plays a key role in our perception of our body and shapes our interactions with the world, from the objects we manipulate to the people we touch. While the tactile sensibility of the hand has been extensively characterized, much less is known about touch on other parts of the body. Despite the...

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# Haptic Feedback Systems for Lower-Limb Prosthetic Applications: A Review of System Design, User Experience, and Clinical Insights



**Summary:** Systems presenting haptic information have emerged as an important technological advance in assisting individuals with sensory impairments or amputations, where the aim is to enhance sensory perception or provide sensory substitution through tactile feedback. These systems provide information on lim...

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Efficacy of non-invasive brain stimulation combined with constraint-induced movement therapy on upper extremity function in patients who had a stroke: protocol for a systematic review and meta-analysis of randomised controlled trials



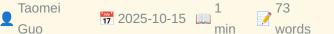
**Summary:** INTRODUCTION: Stroke remains a leading cause of death and long-term disability worldwide, with the majority of survivors experiencing functional impairments, particularly affecting the upper extremities (UEs). Although clinically widespread rehabilitation methods, such as physical and occupational t...

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https://pubmed.ncbi.nlm.nih.gov/41093337/?

# Optimizing cognitive control through the interaction between stimulation intensity and duration in single-site and dual-site **tDCS**







TDCS TACS TRNS

Summary: In the present study, we investigated the relationship between tDCS dosage and the effects of single-site and dual-site tDCS. In Experiment 1, two types of stimulation intensities (1 mA or 1.5 mA) were applied while participants performed a Flanker task. In Experiment 2, two different stimulation du...

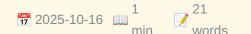
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# Effects of Transcranial Electrical Stimulation on Intermuscular Coherence in WuShu Sprint and KAN-Based **EMG-Performance Function Fitting**









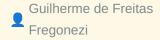
TDCS TACS TRNS

Summary: CONCLUSIONS: Targeted tDCS enhances neuromuscular coordination and sprint velocity, while KAN provides a transparent framework for performance modeling in elite sports.

## 

https://pubmed.ncbi.nlm.nih.gov/41095063/?

# **High-Definition Transcranial Direct Current Stimulation (HD**tDCS) Therapy in Amyotrophic Lateral Sclerosis: Study **Protocol for a Multicenter Randomized Controlled Clinical** Trial







TDCS TACS TRNS

Summary: Background/Objectives: Amyotrophic Lateral Sclerosis (ALS) is a progressive and fatal neurodegenerative disease characterized by motor neuron loss, muscle weakness, and respiratory dysfunction, often culminating in ventilatory failure. Evidence suggests that High-Definition Transcranial Direct Curre...

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https://pubmed.ncbi.nlm.nih.gov/41095781/?

# **Effectiveness of Electrical Stimulation on Upper Limb Function in Children and Young People with Hemiplegic Cerebral Palsy: A Systematic Review**









Summary: Objectives: This review seeks to evaluate the effectiveness of electrical stimulation (ES) in improving upper limb function in children and young people (CYP) with hemiplegic cerebral palsy (HCP). Methods: A systematic literature search from inception until May 2025 was conducted. Various study desi...

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https://pubmed.ncbi.nlm.nih.gov/41095797/?

# A Comprehensive Evaluation of Consumer Trends and the **Bioactive Content of Extra Virgin Olive Oil: Comparative Insights into Trademarked and Local Products**









TDCS TACS TRNS

Summary: This multidisciplinary comparative study investigates consumption patterns, health-related properties, and quality attributes of trademarked and local extra virgin olive oil (EVOO) samples. It highlights the importance of localization in promoting agricultural sustainability, strengthening regional ...

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https://pubmed.ncbi.nlm.nih.gov/41097552/?

# **Effects of Cerebellar tACS With Gamma Band on Basketball Shooting Skills: A Single-Blind, Randomized Controlled Trial** in College Students With Basketball Experience









Summary: CONCLUSIONS: Our results indicate that 70 Hz tACS over the cerebellum may improve basketball shooting skills. These results provide valuable insights into the practical application of tACS in sports. I The purpose of this study was to determine the effects of cerebellar tACS on basketball shooting s...

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# Use of a Vertical Traction Device in the Management of an **Open Abdomen: A Case Report**







TDCS TACS TRNS

**Summary:** A laparostomy procedure, a critical intervention frequently employed in both trauma and non-trauma patients, is a key component of damage control resuscitation. The use of a vertical traction device (VTD), specifically Fasciotens® Abdomen (FTA), is a relatively novel technology that prevents fascial...

#### Read full article:

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# A Systematic Review of Reporting Adverse Effects **Associated With Transcranial Direct Current Stimulation in Chronic Pain**

Daniela-Viorica
Mosoiu

1 2025-10-16 min 46 words

TDCS TACS TRNS

Summary: CONCLUSIONS: In the present form of reporting AEs of tDCS in clinical studies involving patients with chronic pain, this procedure seems to be safe. Nevertheless, we identified diverse modalities of reporting and assessing AEs, which should raise the need for a standardized procedure in this domain.

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# **Therapeutic Strategies for Patient Safety**



1 67 min words



TDCS TACS TRNS

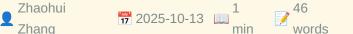
Summary: CONCLUSIONS: The development of a health system based on moral and ethical values and oriented toward increasing the quality of life through therapeutic strategies and measures to ensure patient safety, a holistic approach to the patient and the disease, and the development of personalized therapies...

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https://pubmed.ncbi.nlm.nih.gov/41099742/?

# Prefrontal activation in bipolar and unipolar depression patients in the letter fluency tasks and category fluency tasks: a functional near-infrared spectroscopy study









Summary: CONCLUSION: Our findings indicate that the LFT elicits more extensive prefrontal activation, with differential engagement of the VLPFC in BD compared to UD. These results suggest potential neuroimaging biomarkers for distinguishing between UD and BD, while also providing insights into the neural sub...

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# Neural predictors of hidden, persistent psychological states at work









Summary: Common workplace challenges such as feeling overwhelmed, burned out, or disengaged often remain hidden due to fear of judgment or social norms, contributing to rising mental health crises and organizational dysfunction. This study presents a brainbased framework for predicting these hidden and pers...

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# **Dose-Dependent Enhancement of Coordination through Multibrain Transcranial Stimulation: A fNIRS Hyperscanning** Study









**Summary:** Coordination serves as a fundamental driving force in the evolution of human society, and transcranial electrical stimulation (tES) is increasingly recognized for its ability to modulate human coordination. However, the neural mechanisms underlying coordination and whether tES positively influences ...

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# Functional connectivity in whole-brain and network analysis differentiates minimally conscious from unresponsive patients: a resting-state fNIRS study



1 24 min words







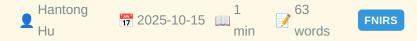
Summary: CONCLUSION: fNIRS could effectively detect abnormal brain network functional connectivity in DOC patients and could provide valuable insights for differentiating MCS and VS/UWS patients.

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Predicting Individual Response to Acupuncture in Sensorineural Tinnitus Using Integrated Functional Near-Infrared Spectroscopy and Machine Learning: Protocol for a Model Development and Validation Study



**Summary:** CONCLUSION: This study represents the first attempt to integrate fNIRS detection with machine learning techniques for predicting acupuncture efficacy in SNT treatment. The methodology addresses several key challenges in acupuncture research through comprehensive data collection and advanced analytic...

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# Online Regulation of Task Difficulty based on Neuro- and **Motor-feedback to improve engagement in Visual-motor Task**





**Summary:** CONCLUSION: Our findings suggest that the proposed NMF system can enable online neural activity regulation in visual-motor tasks and achieve enhanced integration between cognitive and sensorimotor areas, with the potential to improve the rehabilitation training outcomes.

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# Effect of lower limb mirror visual feedback on cortical activation in healthy subjects: a self-controlled randomized trail



Li 1 31 words







Summary: CONCLUSION: LLMVF increases neural activity in the sensory and motor related areas, indicating that LLMVF can promote more activation of brain functional areas, which verifies the top-down positive effect of LLMVF.

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# TSFNet: Temporal-Spatial Fusion Network for Hybrid Brain-Computer Interface



**Summary:** Unimodal brain-computer interfaces (BCIs) often suffer from inherent limitations due to the characteristic of using single modalities. While hybrid BCIs combining electroencephalography (EEG) and functional near-infrared spectroscopy (fNIRS) offer complementary advantages, effectively integrating th...

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Diagnostic Efficacy of Olfactory Function Test Using Functional Near-Infrared Spectroscopy with Machine Learning in Healthy Adults: A Prospective Diagnostic-Accuracy (Feasibility/Validation) Study in Healthy Adults with Algorithm Development



**Summary:** Background/Objectives: The YSK olfactory function (YOF) test is a culturally adapted psychophysical tool that assesses threshold, discrimination, and identification. This study evaluated whether functional near-infrared spectroscopy (fNIRS) synchronized with routine YOF testing, combined with machin...

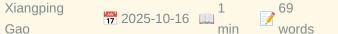
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# **Enhanced Activation in the Dorsolateral Prefrontal Cortex** and Inferior Parietal Lobule During Recovery from Body Dissatisfaction







Summary: Previous studies have examined the neural mechanisms of body dissatisfaction. This study aimed to investigate the neural basis of recovery from body dissatisfaction. Sixty-seven young women participated in this study, engaging in a fat talk-a conversation known to induce body dissatisfaction-followe...

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## test-ipv6.com will stay online!

1 2 2 min words



HACKER NEWS

Summary: <a href="https://news.ycombinator.com/item?id=45608795">Comments</a>

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# SWE-Grep and SWE-Grep-Mini: RL for Fast Multi-Turn Context Retrieval

meetpateltech 72 2025-10-16 min 13 words

**Summary:** Article URL: <a href="https://cognition.ai/blog/swe-grep">https://cognition.ai/blog/swe-grep

https://cognition.ai/blog/swe-grep

# Mysterious Intrigue Around an x86 "Corporate Entity Other Than Intel/AMD"

unsnap\_biceps 7 2025-10-16 min 1 13 HACKER NEWS

**Summary:** Article URL: <a href="https://www.phoronix.com/news/x86-Opcodes-Not-AMD-Or-Intel">https://www.phoronix.com/news/x86-Opcodes-Not-AMD-Or-Intel</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45608285">https://news.ycombinator.com/item?id=45608285">https://news.ycombinator.com/item?id=45608285</a> Points: 29 ...

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https://www.phoronix.com/news/x86-Opcodes-Not-AMD-Or-Intel

# **Gradient Porous Flexible Pressure Sensors with the Relay** Effect for High-Accuracy Braille-to-Speech Recognition









Summary: The development of highly sensitive, wide linear-range flexible pressure sensors is crucial for practical applications in human-computer interaction, physiological signal detection, and motion monitoring. However, traditional flexible pressure sensors often suffer from limited compressibility in the...

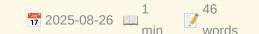
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# Individual and community level factors influencing modern contraceptive use among women of reproductive age in South Africa: a multilevel analysis









BRAILLE

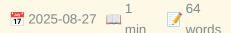
Summary: CONCLUSION: Sensory disability status influenced women's contraceptive behaviour in South Africa. Current family planning interventions should target women with sensory disabilities by prioritising accessible communication methods (e.g., braille, sign language), disability awareness training for hea...

#### Read full article:

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## **Explosion-powered eversible tactile displays**







BRAILLE

Summary: High-resolution electronic tactile displays stand to transform haptics for remote machine operation, virtual reality, and digital information access for people who are blind or visually impaired. Yet, increasing the resolution of these displays requires increasing the number of individually addressa...

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# A Biomimetic Fiber-Entangled Permeable Electronic Skin for Strain-Insensitive and High-Resolution Tactile Sensing









BRAILLE

Summary: Electronic skins (e-skins) incorporating island architectures represent a promising platform for strain-insensitive tactile sensing by mechanically decoupling sensing units from deformations. However, conventional island designs encounter stress concentration issues caused by inherent modulus mismat...

#### Read full article:

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# **High-Density Tactile Sensor Array for Sub-Millimeter Texture** Recognition







BRAILLE

Summary: High-density tactile sensor arrays that replicate human touch could restore texture perception in paralyzed individuals. However, conventional tactile sensor arrays face inherent trade-offs between spatial resolution, sensitivity, and crosstalk suppression due to microstructure size limitations and ...

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# A Diachronic Investigation of the Change in Form and Formational-Semantic Systematicity of the Chinese Sign **Language Lexicon**









**Summary:** It has been argued in previous research that several competing pressures guide the directions of language evolution (economy vs. redundancy; arbitrariness vs. systematicity). For sign languages, however, the effects of competing pressures on their change of lexical systems remain largely unclear. In...

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# Wireless Electrotactile System with Hydrogel-Based **Electrodes for Conformal Tactile Interaction**





1 2025-09-02 min 56 words





BRAILLE

**Summary:** A wireless epidermal electrotactile interface is demonstrated through integration of skin-conformal electrodes and flexible circuitry, addressing existing limitations in haptic technology caused by mechanical mismatch and system-level integration challenges. This electrotactile system achieves low s...

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# Beyond access: rethinking assistive technology for individuals with visual impairments in Türkiye





1 55 min words







Summary: CONCLUSION: Despite demonstrating adaptability, individuals with VI in Türkiye face significant structural barriers to equitable AT access. Informal learning limited public support, and a lack of locally adapted tools contribute to digital exclusion. A rightsbased approach-emphasizing inclusive fun...

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https://pubmed.ncbi.nlm.nih.gov/40937808/?

# High prevalence of bacterial STI, anal HPV, cytological abnormalities and anal lesions among MSM in Togo, 2021: a baseline analysis of the ANRS I MIE 12,400/DepIST-H cohort



**Summary:** CONCLUSIONS: These findings emphasize the high prevalence of STIs among MSM and confirm the unusual distribution of HPV types in West Africa, with HPV35 being highly prevalent. A national strategy regarding STI screening and HPV vaccination in this key population is needed.

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https://pubmed.ncbi.nlm.nih.gov/41013315/?

# Development and Assessment of a Novel Audiosensory Performance Method for Improving the Oral Health of Visually Impaired Children



**Summary:** This study evaluated the effectiveness of an audiosensory performance method in enhancing oral health knowledge and status among visually impaired children aged 6-12 years in the National Capital Region (NCR), Delhi. An interventional study design was used, involving 251 participants equally divided...

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https://pubmed.ncbi.nlm.nih.gov/41041413/?

# Precision TMS through the integration of neuroimaging and machine learning: optimizing stimulation targets for personalized treatment



**Summary:** Transcranial Magnetic Stimulation (TMS), a non-invasive neuromodulation technique based on electromagnetic induction, modulates cortical excitability by inducing currents with a magnetic field. TMS has demonstrated significant clinical potential in the treatment of various neuropsychiatric disorders...

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+e462414

# A time-frequency feature fusion-based deep learning network for SSVEP frequency recognition

Jijun 1 62
Tong min words

BRAIN COMPUTER INTERFACE

Summary: INTRODUCTION: Steady-state visual evoked potential (SSVEP) has emerged as a pivotal branch in brain-computer interfaces (BCIs) due to its high signal-to-noise ratio (SNR) and elevated information transfer rate (ITR). However, substantial inter-subject variability in electroencephalographic (EEG) sig...

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# Participant Engagement, Epistemic Injustice, and Early-Phase **Implanted Neural Device Research**



1 2025-10-15 min 66 words



**BRAIN COMPUTER INTERFACE** 

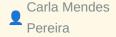
Summary: In recent years, participant engagement initiatives in research on implanted neural devices have significantly increased. However, there remains little consensus on the motivations, goals, and best practices for engagement efforts. Drawing on the concept of participatory epistemic injustice, we argu...

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# **Recommendations for Combining Brain-Computer Interface,** Motor Imagery, and Virtual Reality in Upper Limb Stroke **Rehabilitation: Qualitative Participatory Design Study**







BRAIN COMPUTER INTERFACE

Summary: CONCLUSIONS: Current results contribute to establishing clear guidelines on patient selection, task design, intervention structuring, motivation factors, and tailoring of sensory feedback. This framework presents a foundation for optimal implementation of VR-BCI-based interventions that associate MI...

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# An EEG-based Imagined Speech Database for comparing **Paradigm Designs**

Luz María Alonso-Valerdi 1 2025-10-15 min words

Summary: Brain-computer interfaces (BCIs) attempt to establish a connection between the human mind and a computer system. While recent computational advances continue to improve these interfaces, human factors have been overlooked. Factors such as fatigue and attention play a key role in brain signal modulat...

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# **Passive Brain-Computer Interface Using Textile-Based** Electroencephalography

Sujoy Ghosh Hajra

1 2025-10-16 min 65 words



BRAIN COMPUTER INTERFACE

Summary: Background: Passive brain-computer interface (pBCI) systems use a combination of electroencephalography (EEG) and machine learning (ML) to evaluate a user's cognitive and physiological state, with increasing applications in both clinical and non-clinical scenarios. pBCI systems have been limited by ...

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# TSFNet: Temporal-Spatial Fusion Network for Hybrid Brain-**Computer Interface**

Xiaoyang
Yuan

1
2025-10-16 min

63
BRAIN COMPUTER INTERFACE

Summary: Unimodal brain-computer interfaces (BCIs) often suffer from inherent limitations due to the characteristic of using single modalities. While hybrid BCIs combining electroencephalography (EEG) and functional near-infrared spectroscopy (fNIRS) offer complementary advantages, effectively integrating th...

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# **Motor Imagery Acquisition Paradigms: In the Search to Improve Classification Accuracy**



1 71 min words





BRAIN COMPUTER INTERFACE

Summary: In recent years, advances in medicine have been evident thanks to technological growth and interdisciplinary research, which has allowed the integration of knowledge, for example, of engineering into medical fields. This integration has generated developments and new methods that can be applied in a...

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# Investigation of the Prognostic Value of Novel Laboratory Indices in Patients with Sepsis in an Intensive Care Unit: A Retrospective Observational Study





BRAIN COMPUTER INTERFACE

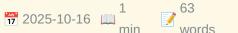
**Summary:** Background: This study aimed to evaluate the prognostic value of some novel laboratory indices in intensive care unit (ICU)-hospitalized sepsis patients. Methods: This retrospective, observational study included 400 patients with sepsis. The indices studied were the C-reactive protein/albumin ratio ...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41095845/?
utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=1rSUu-tbw4049Wgf\_RdKXdtNCvGW0IVBZFpHe7zaN4k4DwoD5&fc=None&ff=20251016134041&v=2.18.0.post9
+e462414

# **Effectiveness of Electroencephalographic Neurofeedback for** Parkinson's Disease: A Systematic Review and Meta-Analysis







BRAIN COMPUTER INTERFACE

Summary: Background: Electroencephalographic (EEG) neurofeedback training is gaining traction as a non-pharmacological treatment option for Parkinson's disease (PD). This paper reports the first pre-registered, integrated systematic review and meta-analysis of studies examining the effects of EEG neurofeedba...

#### 

https://pubmed.ncbi.nlm.nih.gov/41096009/?

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## **Codex Is Live in Zed**

1 2 2025-10-16 min words



HACKER NEWS

Summary: <a href="https://news.ycombinator.com/item?id=45606698">Comments</a>



https://zed.dev/blog/codex-is-live-in-zed

### Gemini 3.0 spotted in the wild through A/B testing



Summary: <a href="https://news.ycombinator.com/item?id=45607758">Comments</a>

https://ricklamers.io/posts/gemini-3-spotted-in-the-wild/

#### **Codex Is Live in Zed**

meetpateltech 72 2025-10-16 min 13 words

**Summary:** Article URL: <a href="https://zed.dev/blog/codex-is-live-in-zed">https://zed.dev/blog/codex-is-live-in-zed">https://zed.dev/blog/codex-is-live-in-zed</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45606698">https://news.ycombinator.com/item?id=45606698</a> Points: 9 # Comments: 0

**⊗** Read full article:

https://zed.dev/blog/codex-is-live-in-zed

#### RTFM: A Real-Time Frame Model

lairv 7 2025-10-16 min 13 HACKER NEWS

**Summary:** Article URL: <a href="https://www.worldlabs.ai/blog/rtfm">https://www.worldlabs.ai/blog/rtfm</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45606775">https://news.ycombinator.com/item?id=45606775</a> Points: 18 # Comments: 1

https://www.worldlabs.ai/blog/rtfm

# Gemini 3.0 spotted in the wild through A/B testing

**Summary:** Article URL: <a href="https://ricklamers.io/posts/gemini-3-spotted-in-the-wild/">https://ricklamers.io/posts/gemini-3-spotted-in-the-wild/</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45607758">https://news.ycombinator.com/item?id=45607758</a> Points: 19 # ...

https://ricklamers.io/posts/gemini-3-spotted-in-the-wild/

# We Found That More Than 170 U.S. Citizens Have Been Held by Immigration Agents

ceejayoz 7 2025-10-16 min 13 HACKER NEWS

**Summary:** Article URL: <a href="https://www.propublica.org/article/immigration-dhsamerican-citizens-arrested-detained-against-will">https://www.propublica.org/article/ immigration-dhs-american-citizens-arrested-detained-against-will</a> Comments URL: <a href="https://news.ycombinator.com/item?id=456...

https://www.propublica.org/article/immigration-dhs-american-citizens-arrested-detained-against-will

#### Important Changes to the 2024 ERP Boot Camp







ERP BOOT CAMP

Summary: We are disappointed to announce that we will not be holding a regular 10-day ERP Boot Camp this summer.We have held Boot Camps nearly every summer since 2007, supported by a series of generous grants from NIMH that allowed us to provide scholarships for all attendees. Unf...

https://erpinfo.org/blog/2024/3/5/changes-to-the-2024-erp-boot-camp

#### Registration is now full for the 2024 ERP Boot Camp



1 106 min words



**ERP BOOT CAMP** 

Summary: The demand for the<a href="https://erpinfo.org/2024-erp-bootcamp"> 2024 ERP Boot Camp</a> was far beyond our expectations, and we reached our maximum registration of 30 people within one day. We already have a waiting list of over 30 people, so we have closed the registration site.<...



https://erpinfo.org/blog/2024/3/15/registration-full

# **New Paper: Using Multivariate Pattern Analysis to Increase Effect Sizes for ERP Amplitude Comparisons**



2 525 min words



ERP BOOT CAMP

Summary: Carrasco, C. D., Bahle, B., Simmons, A. M., & D., Luck, S. J. (2024). Using multivariate pattern analysis to increase effect sizes for event-related potential analyses. Psychophysiology, 61, e14570. <a href="https://doi.org/10.1111/psyp.">https://doi.org/10.1111/psyp.</a> 14570">https://doi.org/10.1111/psyp.14570</a> [<a h...



https://erpinfo.org/blog/2024/6/10/erp-core-decoding-paper

#### New software package: ERPLAB Studio







ERP BOOT CAMP

Summary: We are excited to announce the release of a new EEG/ERP analysis package, <a href="https://github.com/ucdavis/erplab/releases">ERPLAB Studio</ a>. We think it's a huge improvement over the classic EEGLAB user interface. See our cheesy <a href="https://www.youtube.com/watch?v=llaKVQ9DD6E">...



https://erpinfo.org/blog/2024/6/11/erplab-studio

### Recording and slides now available for ERPLAB Studio webinar







ERP BOOT CAMP

Summary: We held a webinar to demonstration ERPLAB Studio on 28 June 2024.<a href="https://youtu.be/k-nGv00rTP8">Click here</a> to access a recording.<a href="https://ucdavis.box.com/s/ 4fseqz6327dtuouauj12rgvivy1d1nmo">Click here </a>to access a PDF of the slides.<...



https://erpinfo.org/blog/2024/6/28/recording-and-slides-now-available-for-erplab-studio-webinar

# New Paper: Does the P3b component reflect working memory updating?



Steve 7 1547 Luck min words



ERP BOOT CAMP

Summary: Carrasco, C. D., Simmons, A. M., Kiat, J. E., & D., Luck, S. J. (in press). Enhanced working memory representations for rare events. <em>Psychophysiology//doi.org/10.1111/psyp.70038">https://doi.org/ 10.1111/psyp.70038</a> [<a href="https://doi.org/10.1101/2024.03.20...

https://erpinfo.org/blog/2025/3/20/new-paper-oddball

#### 10-Day ERP Boot Camp to be held in Davis in Summer 2026



1 138 min words



**ERP BOOT CAMP** 

Summary: We have received another 5 years of funding from the National Institute of Mental Health, so we plan to hold ERP Boot Camps in each of the next 5 summers. The next one will be in Davis, California in the Summer of 2026. The specific dates will be announced around January 1, 2026, and the...



https://erpinfo.org/blog/2025/8/20/boot-camp-summer-2026

#### **Education: Additional Resources**







BRAIN

Summary: Buckingham Shum, S. (2022). The UTS "EdTech Ethics" Deliberative Democracy Consultation: Rationale, Process and Outcomes. Connected Intelligence Centre, University of Technology Sydney, AUS. https://cic.uts.edu.au/projects/edtech-ethics León Declaration on European neurotechnology (2023): a human-fo...

#### 

https://brain.ieee.org/publications/neuroethics-framework/education/educational-and-training-resourceseducation/education-additional-resources/

#### **Education: References**











Summary: [1] OECD "Neurotechnology Toolkit To support policymakers in implementing the OECD Recommendation on Responsible Innovation in Neurotechnology," 2024.: https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/emerging-technologies/ neurotech-toolkit.pdf. [2] van Kesteren and Meeter, 2020 htt...

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https://brain.ieee.org/publications/neuroethics-framework/education/references/education-references/

# As apparent as real: alpha and beta bands desynchronization unveils apparent motion perception dynamics

NEUROIMAGE

Summary: Publication date: 1 November 2025<b>Source:</b> NeuroImage, Volume 321Author(s): Marcella Romeo, Francesca Genovese, Monica Betta, Alice Rossi Sebastiano, Lorenzo Teresi, Nicoletta Scanferlato, Corrado Sinigaglia, Emiliano Ricciardi, Francesca Garbarini

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https://www.sciencedirect.com/science/article/pii/S1053811925005075?dgcid=rss\_sd\_all

# The intrinsic connectivity between the default mode and dorsal attention networks is an independent fMRI biomarker of Alzheimer's disease pathology burden



NEUROIMAGE

Summary: Publication date: 1 November 2025<b>Source:</b> NeuroImage, Volume 321Author(s): Diego-Martin Lombardo, Christian F Beckmann, Alzheimer's Disease Neuroimaging Initiative

#### 

https://www.sciencedirect.com/science/article/pii/S1053811925005129?dqcid=rss\_sd\_all

### Brain-wide patterns of oscillatory amplitudes represent naturalistic behavior

1 12 words

NEUROIMAGE

Summary: Publication date: 1 November 2025<b>Source:</b> NeuroImage, Volume 321Author(s): Duho Sihn, Sung-Phil Kim

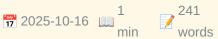
**Read full article:** 

https://www.sciencedirect.com/science/article/pii/S1053811925005245?dqcid=rss\_sd\_all

# Establishment of spinocerebellar ataxia type 34 model mice accompanied by early glial activation and degeneration of cerebellar neurons

Morikawa-Yujiri, Y., Motomura, K., Konno, A., Hitora-Imamura, N., Kurauchi, Y., Masuda, S., Hirai, H., Katsuki, H., Seki, T.





BIORXIV NEUROSCIENCE

Summary: Spinocerebellar ataxia type 34 (SCA34) is an autosomal dominant neurodegenerative disease primarily characterized by progressive cerebellar atrophy and ataxia, frequently accompanied by cognitive dysfunction and erythrokeratodermia variabilis. In 2014, missense mutations in the gene encoding elongat...

https://www.biorxiv.org/content/10.1101/2025.10.15.682296v1?rss=1

# PHOX2B polyalanine repeat mutation has a profound impact on the transcriptome of neuronal progenitor cells in Haddad syndrome

Stobdan, T., Ventrapragada, V., Yao, H., Zhou, D., Dwivedi, I., Lesser, D., Haddad, G.

1 167 min words

BIORXIV NEUROSCIENCE

Summary: Mutation in paired-like homeobox 2B (PHOX2B) is used as the diagnostic marker of Haddad syndrome (HS). The mutant gene/protein afflict neural crest cells during embryonic development which leads to congenital central hypoventilation syndrome (CCHS) and Hirschsprung's disease (HSCR). Previous studies...

**Read full article:** 

https://www.biorxiv.org/content/10.1101/2025.10.15.682708v1?rss=1

### Increased attentive use leads to more idiosyncratic functional connections

Demirayak, P., Fleming, L., Stewart, P., Chua, R., Visscher,

1 244 words

**BIORXIV NEUROSCIENCE** 

Summary: Experience is thought to modify neural connections to adapt the network to be more optimal for the environment. Given the brains complexity, multiple network changes could each move the system toward optimality. Standard methods ignore this multiplicity and examine each connection independently; the...

https://www.biorxiv.org/content/10.1101/2025.10.15.682657v1?rss=1

# Cinqulate-centered flexible control: physiologic correlates and enhancement by internal capsule stimulation

Kim, J., Widge, A.

1 297 min words

BIORXIV NEUROSCIENCE

Summary: The flexible deployment of cognitive control is essential for adaptive functioning in dynamic environments given limited cognitive resources. That flexibility depends on rapid detection and resolution of control-prediction errors (CPEs) when current demands diverge from the control plan. Deficits in...

**⊗** Read full article:

https://www.biorxiv.org/content/10.1101/2025.10.15.682151v1?rss=1

#### **Time-Dependent Facilitation of Homologous Actions**

Hamel, R., Savoie, F.-A., Punt, D., Jenkinson, N., Hinder, M.

1 2025-10-16 min



**BIORXIV NEUROSCIENCE** 

Summary: Unimanual actions can interfere with or facilitate similar actions performed with the opposite hand, especially when in close temporal proximity. Across three sequential button-press experiments, we tested how effector homology - anatomical similarity between fingers - and temporal delays between ac...

https://www.biorxiv.org/content/10.1101/2025.10.15.682693v1?rss=1

# Generation of synthetic TSPO PET maps from structural MRI images

Marco L. 1 250 Loggia min words

FRONTIERS NEUROINFORMATICS

Summary: IntroductionNeuroinflammation, a pathophysiological process involved in numerous disorders, is typically imaged using [11C]PBR28 (or TSPO) PET. However, this technique is limited by high costs and ionizing radiation, restricting its widespread clinical use. MRI, a more accessible alternative, is com...

https://www.frontiersin.org/articles/10.3389/fninf.2025.1633273

# The impact of CSF-filled cavities on scalp EEG and its implications

Maria Carla Piastra

1 64 min words





OOSTENVELD ROBERT

Summary: Previous studies have found electroencephalogram (EEG) amplitude and scalp topography differences between neurotypical and neurological/neurosurgical groups, being interpreted at the cognitive level. However, these comparisons are invariably accompanied by anatomical changes. Critical to EEG are the...

https://pubmed.ncbi.nlm.nih.gov/38873838/?

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# Motion-BIDS: an extension to the brain imaging data structure to organize motion data for reproducible research

Julius .

1 72 2024-07-02 min words OOSTENVELD ROBERT

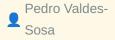
Summary: We present an extension to the Brain Imaging Data Structure (BIDS) for motion data. Motion data is frequently recorded alongside human brain imaging and electrophysiological data. The goal of Motion-BIDS is to make motion data interoperable across different laboratories and with other data modalitie...

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https://pubmed.ncbi.nlm.nih.gov/38956071/?

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### One hundred years of EEG for brain and behaviour research









OOSTENVELD ROBERT

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https://pubmed.ncbi.nlm.nih.gov/39174725/?

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# Freezing of gait in Parkinson's disease is related to imbalanced stopping-related cortical activity

Richard J A van

1 65 min words

OOSTENVELD ROBERT

Summary: Freezing of gait, characterized by involuntary interruptions of walking, is a debilitating motor symptom of Parkinson's disease that restricts people's autonomy. Previous brain imaging studies investigating the mechanisms underlying freezing were restricted to scan people in supine positions and yie...

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https://pubmed.ncbi.nlm.nih.gov/39229492/?

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# The past, present, and future of the brain imaging data structure (BIDS)

Krzysztof J Gorgolewski 1 82 min words

OOSTENVELD ROBERT

Summary: The Brain Imaging Data Structure (BIDS) is a community-driven standard for the organization of data and metadata from a growing range of neuroscience modalities. This paper is meant as a history of how the standard has developed and grown over time. We outline the principles behind the project, the ...

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https://pubmed.ncbi.nlm.nih.gov/39308505/?

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# Human cortical high-gamma power scales with movement rate in healthy participants and stroke survivors

Fanny Quandt

1 65 min words

OOSTENVELD ROBERT

Summary: Motor cortical high-gamma oscillations (60-90 Hz) occur at movement onset and are spatially focused over the contralateral primary motor cortex. Although high-gamma oscillations are widely recognized for their significance in human motor control, their precise function on a cortical level remains el...

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https://pubmed.ncbi.nlm.nih.gov/39786979/?

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# NIRS-BIDS: Brain Imaging Data Structure Extended to Near-**Infrared Spectroscopy**



1 70 min words

OOSTENVELD ROBERT

Summary: Functional near-infrared spectroscopy (fNIRS) is an increasingly popular neuroimaging technique that measures cortical hemodynamic activity in a non-invasive and portable fashion. Although the fNIRS community has been successful in disseminating open-source processing tools and a standard file forma...

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https://pubmed.ncbi.nlm.nih.gov/39870674/?

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# Pseudonymisation of neuroimages and data protection: <em>Increasing access to data while retaining scientific utility</em>

Lyuba
Zehl

Zehl

Zo25-06-26 min

Zostenveld robert

Summary: For a number of years, facial features removal techniques such as 'defacing', 'skull stripping' and 'face masking/blurring', were considered adequate privacy preserving tools to openly share brain images. Scientifically, these measures were already a compromise between data protection requirements a...

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/40568426/?

utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=1BUB2BG5RbxObImhBbiJWEhGG43qlVrvGNHOTqBKva9wWrltM&fc=None&ff=20251016131759&v=2.18.0.post9+e462414

### Cycling on the Freeway: The perilous state of open-source neuroscience software

1 74 min words

OOSTENVELD ROBERT

Summary: Most scientists need software to perform their research (Barker et al., 2020; Carver et al., 2022; Hettrick, 2014; Hettrick et al., 2014; Switters & Osimo, 2019), and neuroscientists are no exception. Whether we work with reaction times, electrophysiological signals, or magnetic resonance imaging data, ...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40800958/?

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### Optimal configuration of on-scalp OPMs with fixed channel counts

Robert 1 69
Oostenveld min words

OOSTENVELD ROBERT

Summary: Recent technological developments have brought optically pumped magnetometers (OPMs) within reach of the larger neuroscientific community. The current state-of-the-art consists of whole-head systems that measure the magnetic field at >100 locations. OPM sensors can be constructed to measure the fiel...

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https://pubmed.ncbi.nlm.nih.gov/40800964/?

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### [Project] mini language based on Python: Montyp

290 min words

REDDIT PYTHON

Summary: <!-- SC\_OFF --><div class="md">I thought it would be fun to base a mini language on python. The result is less than stellar after a lot of work, there is basically not much, but anyway...I just wanted to do something funny. If anyone wants to look around and contribute, or give advi...

#### Read full article:

https://www.reddit.com/r/Python/comments/1o8apus/project mini language based on python montyp/

# Open-Source Hardware: curated list of open-source ASIC tools and designs

**Summary:** Article URL: <a href="https://github.com/aolofsson/awesome-opensource-hardware">https://github.com/aolofsson/awesome-opensource-hardware</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45607481">https://news.ycombinator.com/item?id=45607481">https://news.ycombinator.com/item?id=45607481</a> Points: 3 # Com...

https://github.com/aolofsson/awesome-opensource-hardware

#### **IEEE Brain Annual Flagship Workshop a Success**

**Summary:** IEEE Brain once again hosted the IEEE Brain Discovery and Neurotechnology Workshop as a satellite event to the 2024 Society of Neuroscience Workshop (SfN). Approximately 180 attended the two-day event, which was held at the University of Illinois Chicago (UIC), October 3-4, 2024 (Figure 1). Groundbr...

https://brain.ieee.org/braininsight-articles/ieee-brain-annual-flagship-workshop-a-success/

#### **IEEE Brain Workshop on AI for Neurotechnology**

**Summary:** The IEEE Brain Workshop on AI for Neurotechnology was held on June 30, 2024, at the Pacifico Yokohama Conference Center in Japan. This event was part of the World Congress on Computational Intelligence (WCCI 2024) and was conducted in association with the International Joint Conference on Neural Net...

https://brain.ieee.org/braininsight-articles/ieee-brain-workshop-on-ai-for-neurotechnology/

#### **Call for Papers: IEEE Brain Special Issue**



**Summary:** In a unique interdisciplinary collaboration with the IEEE's Society on Social Implications of Technology (SSIT) and IEEE Brain, J-FLEX is joining forces to explore both the technology of the Internet-of-Medical-Things (IoMT) solutions and medical wearables/implantables.

https://brain.ieee.org/braininsight-articles/ieee-journal-on-flexible-electronics/

#### **IEEE Brain Joins the American Brain Coalition**

**Summary:** IEEE Brain is pleased to announce its acceptance as a nonprofit member of the American Brain Coalition (ABC), a prestigious alliance of over 150 organizations dedicated to advancing brain research, advocacy, and improving treatments for individuals affected by brain conditions. The ABC Board has ent...

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https://brain.ieee.org/braininsight-articles/ieee-brain-joins-the-american-brain-coalition-as-a-nonprofit-member/

# Call for Papers: IEEE Transactions on Human-Machine Systems



**Summary:** Special Issue on Brain Discovery and Neurotechnology: Featured Research from 2024 IEEE Brain Discovery & Neurotechnology Workshop This special issue is motivated by the success of the IEEE Brain Discovery and Neurotechnology Workshop held in October 2024. This annual workshop is sponsore...

#### Read full article:

https://brain.ieee.org/braininsight-articles/call-for-papers-ieee-transactions-on-human-machine-systems/

# **Evaluation on Human Perception of Various Vibrotactile Encoding Methods Through a High Density Haptic Feedback** Interface

1 197 min words

TRANSACTIONS HAPTICS

Summary: High density (HD) haptic interfaces have become increasingly common for entertainment thanks to advancements in virtual reality technology, however their flexibility may make them a useful sensory substitution interface for motor rehabilitation. Yet little research has explored how users interpret d...

**⊗** Read full article:

http://ieeexplore.ieee.org/document/10994678

# **Enhancing Video Experiences for DHH Individuals Through Sound-Inspired Motion Caption-Based Spatiotemporal Tacton**

1 146 min words





TRANSACTIONS HAPTICS

Summary: When deaf and hard of hearing (DHH) individuals watch videos, captions are essential for them to understand the linguistic content. Current captions, however, are not suitable for conveying non-verbal sound information, such as background music, sound effects, or speech nuances. In this paper, we de...

Read full article:

http://ieeexplore.ieee.org/document/10946856

#### **Call for 2025 Society Awards Nominations**









**Summary:** The post <a href="https://www.embs.org/awards/society-awards/" #new tab">Call for 2025 Society Awards Nominations</a> appeared first on <a href="https://www.embs.org">IEEE EMBS</a>.



https://www.embs.org/awards/society-awards/#new\_tab

#### **Bridging Biotech: Regional shifts and patterns**









Summary: The post <a href="https://www.embs.org/blog-post/regional-shifts-andpatterns/">Bridging Biotech: Regional shifts and patterns</a> appeared first on <a href="https://www.embs.org">IEEE EMBS</a>.



https://www.embs.org/blog-post/regional-shifts-and-patterns/

# Welcoming Dr. Ana Kyani as the New Women in Biomedical **Engineering Chair for IEEE EMBS**









Summary: The post <a href="https://www.embs.org/blog-post/welcoming-dr-ana-kyanias-wibme-chair-ieee-embs/">Welcoming Dr. Ana Kyani as the New Women in Biomedical Engineering Chair for IEEE EMBS</a> appeared first on <a href="https:// www.embs.org">IEEE EMBS</a>.

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https://www.embs.org/blog-post/welcoming-dr-ana-kyani-as-wibme-chair-ieee-embs/

### Ivan Lee, Appointed Editor-in-Chief of EMBC Proceedings











**Summary:** The post <a href="https://www.embs.org/press/embc-eicsunghoon-ivan-lee/#new tab">Ivan Lee, Appointed Editor-in-Chief of EMBC Proceedings</ a> appeared first on <a href="https://www.embs.org">IEEE EMBS</a>.

#### 

https://www.embs.org/press/embc-eic-sunghoon-ivan-lee/#new tab

# Photobiomodulation in stroke prevention and treatment: neuroprotective mechanisms and therapeutic challenges

1 19 BRAIN RESEARCH words

**Summary:** Publication date: 1 December 2025<b>Source:</b> Brain Research, Volume 1868Author(s): Yuecheng Li, Lei Zhang, Jiaqiang Lin, Luodan Yang, Rui Duan

https://www.sciencedirect.com/science/article/pii/S000689932500544X?dgcid=rss\_sd\_all

# Microglia-specific regulation of lipid metabolism in Alzheimer's disease revealed by microglial depletion in 5xFAD Mice



https://www.nature.com/articles/s41467-025-64161-z

# Standardization of postmortem human brainstem along the rostrocaudal axis to accommodate for inter-specimen structural heterogeneity



**⊗** Read full article:

https://www.nature.com/articles/s41598-025-20016-7

# A brain cancer microtissue model for studying tumor cell and neural cell interactions



https://www.nature.com/articles/s41598-025-19982-9

# Cognitive arbitration between candidate dimensions of psychopathology



**⊗** Read full article:

https://www.nature.com/articles/s41380-025-03297-2

# Temporal visual processing deficits in post concussion syndrome



**⊗** Read full article:

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# How emotional memories are engraved on the brain, with surprising helper cells



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# Alterations of the amygdala in post-COVID olfactory dysfunction



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# Persistent open chromatin state in early-life stress-activated cells of the VTA



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# The astrocytic ensemble acts as a multiday trace to stabilize memory



https://www.nature.com/articles/s41586-025-09619-2

# Does spatialized audio enhance the creation of mental representations?

Lorenzo 1 164
Picinali min words

FRONTIERS NEUROSCIENCE

Summary: Navigating unfamiliar environments without vision is a considerable challenge for blind individuals, as it requires constructing accurate cognitive maps. Binaural audio feedback, which delivers spatialized auditory cues, has been proposed as a means of enhancing spatial navigation by leveraging the ...

https://www.frontiersin.org/articles/10.3389/fnins.2025.1660373

# The impact of CSF-filled cavities on scalp EEG and its implications

Maria Carla

1 64 min words



OOSTENVELD ROBERT

Summary: Previous studies have found electroencephalogram (EEG) amplitude and scalp topography differences between neurotypical and neurological/neurosurgical groups, being interpreted at the cognitive level. However, these comparisons are invariably accompanied by anatomical changes. Critical to EEG are the...

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# Motion-BIDS: an extension to the brain imaging data structure to organize motion data for reproducible research

Julius .

1 72 2024-07-02 min words OOSTENVELD ROBERT

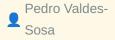
Summary: We present an extension to the Brain Imaging Data Structure (BIDS) for motion data. Motion data is frequently recorded alongside human brain imaging and electrophysiological data. The goal of Motion-BIDS is to make motion data interoperable across different laboratories and with other data modalitie...

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### One hundred years of EEG for brain and behaviour research









OOSTENVELD ROBERT

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# Freezing of gait in Parkinson's disease is related to imbalanced stopping-related cortical activity

Richard J A van

1 65 min words

OOSTENVELD ROBERT

Summary: Freezing of gait, characterized by involuntary interruptions of walking, is a debilitating motor symptom of Parkinson's disease that restricts people's autonomy. Previous brain imaging studies investigating the mechanisms underlying freezing were restricted to scan people in supine positions and yie...

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# The past, present, and future of the brain imaging data structure (BIDS)

Krzysztof J Gorgolewski 1 82 min words

OOSTENVELD ROBERT

Summary: The Brain Imaging Data Structure (BIDS) is a community-driven standard for the organization of data and metadata from a growing range of neuroscience modalities. This paper is meant as a history of how the standard has developed and grown over time. We outline the principles behind the project, the ...

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### Human cortical high-gamma power scales with movement rate in healthy participants and stroke survivors

Fanny Quandt

1 65 min words

OOSTENVELD ROBERT

Summary: Motor cortical high-gamma oscillations (60-90 Hz) occur at movement onset and are spatially focused over the contralateral primary motor cortex. Although high-gamma oscillations are widely recognized for their significance in human motor control, their precise function on a cortical level remains el...

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# NIRS-BIDS: Brain Imaging Data Structure Extended to Near-**Infrared Spectroscopy**



1 70 min words





OOSTENVELD ROBERT

Summary: Functional near-infrared spectroscopy (fNIRS) is an increasingly popular neuroimaging technique that measures cortical hemodynamic activity in a non-invasive and portable fashion. Although the fNIRS community has been successful in disseminating open-source processing tools and a standard file forma...

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# Pseudonymisation of neuroimages and data protection: <em>Increasing access to data while retaining scientific utility</em>

Lyuba
Zehl

Zehl

Zo25-06-26 min

Zostenveld robert

Summary: For a number of years, facial features removal techniques such as 'defacing', 'skull stripping' and 'face masking/blurring', were considered adequate privacy preserving tools to openly share brain images. Scientifically, these measures were already a compromise between data protection requirements a...

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### Cycling on the Freeway: The perilous state of open-source neuroscience software

1 74 min words

OOSTENVELD ROBERT

Summary: Most scientists need software to perform their research (Barker et al., 2020; Carver et al., 2022; Hettrick, 2014; Hettrick et al., 2014; Switters & Osimo, 2019), and neuroscientists are no exception. Whether we work with reaction times, electrophysiological signals, or magnetic resonance imaging data, ...

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#### Optimal configuration of on-scalp OPMs with fixed channel counts

Robert 1 69
Oostenveld min words

OOSTENVELD ROBERT

Summary: Recent technological developments have brought optically pumped magnetometers (OPMs) within reach of the larger neuroscientific community. The current state-of-the-art consists of whole-head systems that measure the magnetic field at >100 locations. OPM sensors can be constructed to measure the fiel...

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#### **Lightweight GAN for Restoring Blurred Images to Enhance** Citrus Detection



Pei 1 66 Wang words

**LOW VISION** 

Summary: Image blur is a major factor that degrades object detection in agricultural applications, particularly in orchards where crop occlusion, leaf movement, and camera shake frequently reduce image quality. This study proposed a lightweight generative adversarial network, AGG-DeblurGAN, to address non-un...

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Radosław

1 2025-10-16 min 68 Low VISION

Summary: Background: Vision loss due to chronic eye diseases remains a significant public health challenge. Early detection through screening programs may reduce the burden of vision loss. This study aimed to assess the detection rate of eye diseases (glaucoma, AMD, and diabetic retinopathy), including those...

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Ibrahim M Gosadi

1 69 min words

LOW VISION

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Summary: Background: The goal of the study was to describe the visual function characteristics of children with developmental epileptic encephalopathy resulting from mutations in the STXBP1 gene. Methods: The study included 26 consecutive patients from the Polish STXBP1 population (11 male and 16 female; mea...

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# Fully Automated Segmentation of Cervical Spinal Cord in Sagittal MR Images Using Swin-Unet Architectures

Utku Şenol

1 67 min words

Summary: Background/Objectives: The spinal cord is a critical component of the central nervous system that transmits neural signals between the brain and the body's peripheral regions through its nerve roots. Despite being partially protected by the vertebral column, the spinal cord remains highly vulnerable...

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# **Monitoring Night-Time Activity Patterns of Laying Hens in** Response to Poultry Red Mite Infestations Using Night-Vision Cameras



73 min words



LOW VISION

Summary: The poultry red mite (PRM) feeds on hens' blood at night, disrupting sleep, harming welfare, and reducing productivity. Effective control may lie in dynamic Integrated Pest Management (IPM), which relies on routine monitoring and adaptation to farm conditions. This study investigated how PRM infesta...

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**Summary:** (1) Background: Essential oils (EOs) have emerged as promising antibacterial agents due to their broad-spectrum activity and low risk of resistance development. Therefore, this review aimed to assess the effectiveness of EOs against Gram-positive ESKAPE pathogens, and to evaluate their safety and to...

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https://pubmed.ncbi.nlm.nih.gov/41097295/?

# **Artificial Intelligence-Enhanced Liquid Biopsy and Radiomics** in Early-Stage Lung Cancer Detection: A Precision Oncology **Paradigm**

Shivaram P Arunachalam

1 57 Low vision min words

Summary: CONCLUSION: The integration of AI with liquid biopsy and radiomics holds transformative potential for early lung cancer detection. This non-invasive, scalable, and individualized diagnostic paradigm could significantly reduce lung cancer mortality through timely and targeted interventions. As techno...

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Summary: Spiking neural networks (SNNs) hold significant promise as energy-efficient alternatives to conventional artificial neural networks (ANNs). However, SNNs require computations across multiple timesteps, resulting in increased latency, heightened energy consumption, and additional memory access overhe...

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meetpateltech 72 2025-10-16 min 13 HACKER NEWS

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Individualized connectomic tACS immediately improves oscillatory network with language facilitation in post-stroke aphasia: a feasibility study of a dysfunctome-based targeting approach



FRONTIERS COMPUTATIONAL NEUROSCIENCE

**Summary:** IntroductionPeople with post-stroke aphasia (PSA) exhibit significant interindividual variability attributed to distinctive network disruption patterns across individuals. This complexity limits the effectiveness of conventional one-size-fits-all brain stimulation approaches, but to date no individu...

https://www.frontiersin.org/articles/10.3389/fncom.2025.1635497

# Statistical characterization of cortical-thalamic dynamics evoked by cortical stimulation in mice

Diana Nigrisoli, Simone Russo, Ruggero Freddi, Nicolas Seseri, Stefania Corti, Linda Ottoboni and Riccardo Barbieri



**Summary:** Objective. Statistical models are powerful tools for describing biological phenomena such as neuronal spiking activity. Although these models have been widely used to study spontaneous and stimulated neuronal activity, they have not yet been applied to analyze responses to electrical cortical stimul...

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http://iopscience.iop.org/article/10.1088/1741-2552/ae0966

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# **Gradient Porous Flexible Pressure Sensors with the Relay** Effect for High-Accuracy Braille-to-Speech Recognition



Jianming 1 62
Xu min words

Summary: The development of highly sensitive, wide linear-range flexible pressure sensors is crucial for practical applications in human-computer interaction, physiological signal detection, and motion monitoring. However, traditional flexible pressure sensors often suffer from limited compressibility in the...

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# Individual and community level factors influencing modern contraceptive use among women of reproductive age in South Africa: a multilevel analysis



7 2025-08-26 min 46 words



BRAILLE

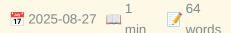
Summary: CONCLUSION: Sensory disability status influenced women's contraceptive behaviour in South Africa. Current family planning interventions should target women with sensory disabilities by prioritising accessible communication methods (e.g., braille, sign language), disability awareness training for hea...

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### **Explosion-powered eversible tactile displays**







BRAILLE

Summary: High-resolution electronic tactile displays stand to transform haptics for remote machine operation, virtual reality, and digital information access for people who are blind or visually impaired. Yet, increasing the resolution of these displays requires increasing the number of individually addressa...

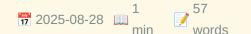
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# A Biomimetic Fiber-Entangled Permeable Electronic Skin for Strain-Insensitive and High-Resolution Tactile Sensing









BRAILLE

Summary: Electronic skins (e-skins) incorporating island architectures represent a promising platform for strain-insensitive tactile sensing by mechanically decoupling sensing units from deformations. However, conventional island designs encounter stress concentration issues caused by inherent modulus mismat...

#### Read full article:

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# **High-Density Tactile Sensor Array for Sub-Millimeter Texture** Recognition







BRAILLE

Summary: High-density tactile sensor arrays that replicate human touch could restore texture perception in paralyzed individuals. However, conventional tactile sensor arrays face inherent trade-offs between spatial resolution, sensitivity, and crosstalk suppression due to microstructure size limitations and ...

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# A Diachronic Investigation of the Change in Form and Formational-Semantic Systematicity of the Chinese Sign **Language Lexicon**









**Summary:** It has been argued in previous research that several competing pressures guide the directions of language evolution (economy vs. redundancy; arbitrariness vs. systematicity). For sign languages, however, the effects of competing pressures on their change of lexical systems remain largely unclear. In...

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## Wireless Electrotactile System with Hydrogel-Based **Electrodes for Conformal Tactile Interaction**





1 2025-09-02 min 56 words





BRAILLE

**Summary:** A wireless epidermal electrotactile interface is demonstrated through integration of skin-conformal electrodes and flexible circuitry, addressing existing limitations in haptic technology caused by mechanical mismatch and system-level integration challenges. This electrotactile system achieves low s...

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# Beyond access: rethinking assistive technology for individuals with visual impairments in Türkiye





1 55 min words





BRAILLE

Summary: CONCLUSION: Despite demonstrating adaptability, individuals with VI in Türkiye face significant structural barriers to equitable AT access. Informal learning limited public support, and a lack of locally adapted tools contribute to digital exclusion. A rightsbased approach-emphasizing inclusive fun...

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https://pubmed.ncbi.nlm.nih.gov/40937808/?

# High prevalence of bacterial STI, anal HPV, cytological abnormalities and anal lesions among MSM in Togo, 2021: a baseline analysis of the ANRS I MIE 12,400/DepIST-H cohort



**Summary:** CONCLUSIONS: These findings emphasize the high prevalence of STIs among MSM and confirm the unusual distribution of HPV types in West Africa, with HPV35 being highly prevalent. A national strategy regarding STI screening and HPV vaccination in this key population is needed.

#### 

https://pubmed.ncbi.nlm.nih.gov/41013315/?

# Development and Assessment of a Novel Audiosensory Performance Method for Improving the Oral Health of Visually Impaired Children



**Summary:** This study evaluated the effectiveness of an audiosensory performance method in enhancing oral health knowledge and status among visually impaired children aged 6-12 years in the National Capital Region (NCR), Delhi. An interventional study design was used, involving 251 participants equally divided...

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https://pubmed.ncbi.nlm.nih.gov/41041413/?

# Precision TMS through the integration of neuroimaging and machine learning: optimizing stimulation targets for personalized treatment



**Summary:** Transcranial Magnetic Stimulation (TMS), a non-invasive neuromodulation technique based on electromagnetic induction, modulates cortical excitability by inducing currents with a magnetic field. TMS has demonstrated significant clinical potential in the treatment of various neuropsychiatric disorders...

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+e462414

# A time-frequency feature fusion-based deep learning network for SSVEP frequency recognition

Jijun 1 62
Tong min words

BRAIN COMPUTER INTERFACE

Summary: INTRODUCTION: Steady-state visual evoked potential (SSVEP) has emerged as a pivotal branch in brain-computer interfaces (BCIs) due to its high signal-to-noise ratio (SNR) and elevated information transfer rate (ITR). However, substantial inter-subject variability in electroencephalographic (EEG) sig...

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# Participant Engagement, Epistemic Injustice, and Early-Phase **Implanted Neural Device Research**



1 2025-10-15 min 66 words



**BRAIN COMPUTER INTERFACE** 

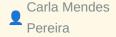
Summary: In recent years, participant engagement initiatives in research on implanted neural devices have significantly increased. However, there remains little consensus on the motivations, goals, and best practices for engagement efforts. Drawing on the concept of participatory epistemic injustice, we argu...

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# **Recommendations for Combining Brain-Computer Interface,** Motor Imagery, and Virtual Reality in Upper Limb Stroke **Rehabilitation: Qualitative Participatory Design Study**







BRAIN COMPUTER INTERFACE

Summary: CONCLUSIONS: Current results contribute to establishing clear guidelines on patient selection, task design, intervention structuring, motivation factors, and tailoring of sensory feedback. This framework presents a foundation for optimal implementation of VR-BCI-based interventions that associate MI...

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## An EEG-based Imagined Speech Database for comparing **Paradigm Designs**

Luz María Alonso-Valerdi 1 2025-10-15 min words

Summary: Brain-computer interfaces (BCIs) attempt to establish a connection between the human mind and a computer system. While recent computational advances continue to improve these interfaces, human factors have been overlooked. Factors such as fatigue and attention play a key role in brain signal modulat...

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# **Passive Brain-Computer Interface Using Textile-Based** Electroencephalography

Sujoy Ghosh Hajra





BRAIN COMPUTER INTERFACE

Summary: Background: Passive brain-computer interface (pBCI) systems use a combination of electroencephalography (EEG) and machine learning (ML) to evaluate a user's cognitive and physiological state, with increasing applications in both clinical and non-clinical scenarios. pBCI systems have been limited by ...

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## TSFNet: Temporal-Spatial Fusion Network for Hybrid Brain-**Computer Interface**

Xiaoyang
Yuan

1
2025-10-16 min

63
BRAIN COMPUTER INTERFACE

Summary: Unimodal brain-computer interfaces (BCIs) often suffer from inherent limitations due to the characteristic of using single modalities. While hybrid BCIs combining electroencephalography (EEG) and functional near-infrared spectroscopy (fNIRS) offer complementary advantages, effectively integrating th...

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# **Motor Imagery Acquisition Paradigms: In the Search to Improve Classification Accuracy**



1 71 min words





BRAIN COMPUTER INTERFACE

Summary: In recent years, advances in medicine have been evident thanks to technological growth and interdisciplinary research, which has allowed the integration of knowledge, for example, of engineering into medical fields. This integration has generated developments and new methods that can be applied in a...

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# Investigation of the Prognostic Value of Novel Laboratory Indices in Patients with Sepsis in an Intensive Care Unit: A Retrospective Observational Study





BRAIN COMPUTER INTERFACE

**Summary:** Background: This study aimed to evaluate the prognostic value of some novel laboratory indices in intensive care unit (ICU)-hospitalized sepsis patients. Methods: This retrospective, observational study included 400 patients with sepsis. The indices studied were the C-reactive protein/albumin ratio ...

#### Read full article:

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+e462414

## Effectiveness of Electroencephalographic Neurofeedback for Parkinson's Disease: A Systematic Review and Meta-Analysis

Andrew Cooke

1 63 min words

BRAIN COMPUTER INTERFACE

Summary: Background: Electroencephalographic (EEG) neurofeedback training is gaining traction as a non-pharmacological treatment option for Parkinson's disease (PD). This paper reports the first pre-registered, integrated systematic review and meta-analysis of studies examining the effects of EEG neurofeedba...

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### Implicit learning of melodic structure: A role for pitch?

1 180 min words

**PSYCHOMUSICOLOGY** 

Summary: Growing evidence suggests that pitch influences musical processing, with melodic processing being enhanced in higher pitch ranges (e.g., Fujioka et al., 2005) and rhythmic processing being enhanced in lower pitches, and these effects may have a basis in elementary properties of the auditory system (...

http://doi.org/10.1037/pmu0000303

# The sound of manufactured music: Reviewing the role of artificial stimuli in music cognition research.

1 259 min words

PSYCHOMUSICOLOGY

Summary: Having participants listen and react to musical stimuli is one of music cognition's foundational methods. Whereas most researchers have used stimuli adapted from existing musical traditions in such work, others have incorporated artificial stimuli (i.e., stimuli generated specifically for research t...

http://doi.org/10.1037/pmu0000304

# Music-evoked nostalgia and charitable giving: A crosscultural study in the United States and Mexico.

1 192 min words



PSYCHOMUSICOLOGY

**Summary:** Nostalgia, a past-oriented emotion characterized by complex affective responses, is a pervasive and fundamental human experience. Prior research has demonstrated that nostalgia serves various socioemotional functions, such as promoting a sense of belonging, enhancing one's perception of meaning in I...

http://doi.org/10.1037/pmu0000302

# Preferred music listening does not affect cognitive inhibition in young and older adults.

1 2023-10-12 min 227 PSYCHOMUSICOLOGY

**Summary:** Previous literature has found links between music listening and cognitive performance. Specifically, background music may play a role in modulating cognitive inhibition. However, determining what type of background music affects cognitive inhibition throughout the lifespan has not been studied. The ...

http://doi.org/10.1037/pmu0000300

# Absolute pitch: A literature review of underlying factors, with special regard to music pedagogy.

1 2023-07-10 min 202 PSYCHOMUSICOLOGY

**Summary:** Absolute pitch (AP) is a fairly rare and special phenomenon that has relevance for musicology, psychology, genetics, and neuroscience. AP possessors are able to identify the pitch of an isolated sound or to produce that sound without a reference point. The authors' aim is to review the literature on...

http://doi.org/10.1037/pmu0000298

# Capturing coordination and intentionality in joint musical improvisation.

1 2023-08-03 min 217 PSYCHOMUSICOLOGY

Summary: Humans collaborate with each other on a wide variety of tasks that are often largely improvised and unscripted. In this study, we investigated the dynamics of coordination in a joint musical improvisation task, what the effect of intentions is on coordination, and how musicians propagate these inten...

http://doi.org/10.1037/pmu0000299

# Early contingency information enhances human punishment sensitivity when punishment is frequent but not rare.

1 155 min words





BEHAVIORAL NEUROSCIENCE

**Summary:** Individuals differ in sensitivity to the adverse consequences of their actions. We have shown that these differences can be linked to differences in correctly learning causal relationships between actions and their negative consequences. To further assess this, here we used a conditioned punishment ...

Read full article:

http://doi.org/10.1037/bne0000627

Deep brain stimulation of nucleus basalis of meynert: Effect of stimulation mode and duration on learning in rat model of dementia.

1 2025-06-09 min words

BEHAVIORAL NEUROSCIENCE

**Summary:** Deep brain stimulation (DBS) of the nucleus basalis of Meynert (NBM) has been preliminarily investigated as a potential treatment for dementia. The degeneration of NBM cholinergic neurons is a pathological feature of many forms of dementia. Although NBM stimulation has been demonstrated to improve I...

**⊗** Read full article:

http://doi.org/10.1037/bne0000625

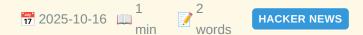
# Quickest way to build a custom AI chatbot to query your python project



**Summary:** <!-- SC\_OFF --><div class="md">Hi Community, I've been working on a side project to make it easier for Python developers to understand, explore, and interact with their own codebases — using AI. <h1>What My Project Does</h1> The tool indexes your code and creates a chatbot that acts...

https://www.reddit.com/r/Python/comments/108a2bi/quickest\_way\_to\_build\_a\_custom\_ai\_chatbot\_to/

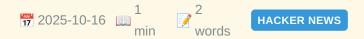
## Ld\_preload, the Invisible Key Theft



Summary: <a href="https://news.ycombinator.com/item?id=45606611">Comments</a>

https://bomfather.dev/blog/ld-preload-the-invisible-key-theft/

# Video game union workers rally against \$55B private acquisition of EA



Summary: <a href="https://news.ycombinator.com/item?id=45606394">Comments</a>

https://www.eurogamer.net/ea-union-workers-rally-against-55bn-saudi-backed-private-acquisition-with-formal-petition-to-regulators

### **Electricity can heal wounds three times as fast (2023)**

**Summary:** Article URL: <a href="https://www.chalmers.se/en/current/news/mc2-how-electricity-can-heal-wounds-three-times-as-fast/">https://www.chalmers.se/en/current/news/mc2-how-electricity-can-heal-wounds-three-times-as-fast/</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45604779"...</p>

https://www.chalmers.se/en/current/news/mc2-how-electricity-can-heal-wounds-three-times-as-fast/

# **How America got hooked on ultraprocessed foods**



**Summary:** Article URL: <a href="https://www.nytimes.com/interactive/2025/10/16/well/eat/ultraprocessed-food-junk-history.html">https://www.nytimes.com/interactive/2025/10/16/well/eat/ultraprocessed-food-junk-history.html</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45605921">https://news.ycombinator.com/item?id=45605921</a>

https://www.nytimes.com/interactive/2025/10/16/well/eat/ultraprocessed-food-junk-history.html

### Improving the Trustworthiness of JavaScript on the Web

doomrobo 7 2025-10-16 min 13 HACKER NEWS

**Summary:** Article URL: <a href="https://blog.cloudflare.com/improving-the-trustworthiness-of-javascript-on-the-web/">https://blog.cloudflare.com/improving-the-trustworthiness-of-javascript-on-the-web/</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45606070">https://news.ycombinator....

https://blog.cloudflare.com/improving-the-trustworthiness-of-javascript-on-the-web/

# Video game union workers rally against \$55B private acquisition of EA

**Summary:** Article URL: <a href="https://www.eurogamer.net/ea-union-workers-rally-against-55bn-saudi-backed-private-acquisition-with-formal-petition-to-regulators">https://www.eurogamer.net/ea-union-workers-rally-against-55bn-saudi-backed-private-acquisition-with-formal-petition-to-regulators</a> Com...

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https://www.eurogamer.net/ea-union-workers-rally-against-55bn-saudi-backed-private-acquisition-with-formal-petition-to-regulators

### Why more SaaS companies are hiring chief trust officers

PwnEmAll 7 2025-10-16 min 13 words

**Summary:** Article URL: <a href="https://www.itbrew.com/stories/2025/10/14/why-more-saas-companies-are-hiring-chief-trust-officers">https://www.itbrew.com/stories/2025/10/14/why-more-saas-companies-are-hiring-chief-trust-officers</a> Comments URL: <a href="https://news.ycombinator.com/item?id=4560660..."</p>

https://www.itbrew.com/stories/2025/10/14/why-more-saas-companies-are-hiring-chief-trust-officers

### Ld\_preload, the Invisible Key Theft

nathan\_naveen 7 2025-10-16 min 13 words

**Summary:** Article URL: <a href="https://bomfather.dev/blog/ld-preload-the-invisible-key-theft/">https://bomfather.dev/blog/ld-preload-the-invisible-key-theft/</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45606611">https://news.ycombinator.com/item?id=45606611">https://news.ycombinator.com/item?id=45606611</a> Points: 10...

**⊗** Read full article:

https://bomfather.dev/blog/ld-preload-the-invisible-key-theft/

# The impact of CSF-filled cavities on scalp EEG and its **implications**

Maria Carla
Piastra

1
2024-06-14

min

64

words

OOSTENVELD ROBERT

Summary: Previous studies have found electroencephalogram (EEG) amplitude and scalp topography differences between neurotypical and neurological/neurosurgical groups, being interpreted at the cognitive level. However, these comparisons are invariably accompanied by anatomical changes. Critical to EEG are the...

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# Motion-BIDS: an extension to the brain imaging data structure to organize motion data for reproducible research



1 72 min words

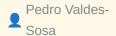
OOSTENVELD ROBERT

Summary: We present an extension to the Brain Imaging Data Structure (BIDS) for motion data. Motion data is frequently recorded alongside human brain imaging and electrophysiological data. The goal of Motion-BIDS is to make motion data interoperable across different laboratories and with other data modalitie...

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#### One hundred years of EEG for brain and behaviour research







OOSTENVELD ROBERT

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# Freezing of gait in Parkinson's disease is related to imbalanced stopping-related cortical activity







OOSTENVELD ROBERT

Summary: Freezing of gait, characterized by involuntary interruptions of walking, is a debilitating motor symptom of Parkinson's disease that restricts people's autonomy. Previous brain imaging studies investigating the mechanisms underlying freezing were restricted to scan people in supine positions and yie...

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# The past, present, and future of the brain imaging data structure (BIDS)

Krzysztof J
Gorgolewski

Sorgolewski

Gorgolewski

Sorgolewski

Sorgolewski

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Sorgolewski

Summary: The Brain Imaging Data Structure (BIDS) is a community-driven standard for the organization of data and metadata from a growing range of neuroscience modalities. This paper is meant as a history of how the standard has developed and grown over time. We outline the principles behind the project, the ...

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# **Human cortical high-gamma power scales with movement** rate in healthy participants and stroke survivors

1 65 min words

OOSTENVELD ROBERT

Summary: Motor cortical high-gamma oscillations (60-90 Hz) occur at movement onset and are spatially focused over the contralateral primary motor cortex. Although high-gamma oscillations are widely recognized for their significance in human motor control, their precise function on a cortical level remains el...

#### 

https://pubmed.ncbi.nlm.nih.gov/39786979/?

## NIRS-BIDS: Brain Imaging Data Structure Extended to Near-**Infrared Spectroscopy**

Luca 1 70
Pollonini 2025-01-27 min words

OOSTENVELD ROBERT

Summary: Functional near-infrared spectroscopy (fNIRS) is an increasingly popular neuroimaging technique that measures cortical hemodynamic activity in a non-invasive and portable fashion. Although the fNIRS community has been successful in disseminating open-source processing tools and a standard file forma...

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# Pseudonymisation of neuroimages and data protection: <em>Increasing access to data while retaining scientific utility</em>



Lyuba
Zehl

Zehl

Zo25-06-26 min

Zostenveld robert

Oostenveld robert

**Summary:** For a number of years, facial features removal techniques such as 'defacing', 'skull stripping' and 'face masking/blurring', were considered adequate privacy preserving tools to openly share brain images. Scientifically, these measures were already a compromise between data protection requirements a...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40568426/?

### Cycling on the Freeway: The perilous state of open-source neuroscience software

Tim M
Tierney

Summary: Most scientists need software to perform their research (Barker et al., 2020; Carver et al., 2022; Hettrick, 2014; Hettrick et al., 2014; Switters & Osimo, 2019), and neuroscientists are no exception. Whether we work with reaction times, electrophysiological signals, or magnetic resonance imaging data, ...

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### Optimal configuration of on-scalp OPMs with fixed channel counts







OOSTENVELD ROBERT

Summary: Recent technological developments have brought optically pumped magnetometers (OPMs) within reach of the larger neuroscientific community. The current state-of-the-art consists of whole-head systems that measure the magnetic field at >100 locations. OPM sensors can be constructed to measure the fiel...

#### 

https://pubmed.ncbi.nlm.nih.gov/40800964/?

## **Lightweight GAN for Restoring Blurred Images to Enhance Citrus Detection**

**Summary:** Image blur is a major factor that degrades object detection in agricultural applications, particularly in orchards where crop occlusion, leaf movement, and camera shake frequently reduce image quality. This study proposed a lightweight generative adversarial network, AGG-DeblurGAN, to address non-un...

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### Opportunistic Eye Disease Screening in Mazovia, Poland: Lessons from a Local Government Program: "Good Vision for Mazovians"



**Summary:** Background: Vision loss due to chronic eye diseases remains a significant public health challenge. Early detection through screening programs may reduce the burden of vision loss. This study aimed to assess the detection rate of eye diseases (glaucoma, AMD, and diabetic retinopathy), including those...

#### **Read full article:**

https://pubmed.ncbi.nlm.nih.gov/41095542/?

#### Interplay of Modifiable and Non-Modifiable Risk Factors for **Diabetes Mellitus in Saudi Adults**

Ibrahim M
Gosadi

1
2025-10-16
min

69
Low VISION

Summary: Background/Objectives: Diabetes Mellitus (DM) remains a critical public health issue in Saudi Arabia, shaped by complex interactions among genetic, lifestyle, and sociodemographic factors. This study explores interplay of modifiable and non-modifiable determinants of DM among Saudi adults. Methods: ...

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## Which Physical Therapy Intervention Is Most Effective in **Reducing Secondary Lymphedema Associated with Breast Cancer? A Systematic Review and Network Meta-Analysis**



1 67 min words



LOW VISION

Summary: Background: Breast cancer-related lymphedema (BCRL) is a common complication that impairs function and quality of life (QoL). The comparative effectiveness of physical therapy interventions (PTIs) remains unclear. This systematic review and network meta-analysis (NMA) was conducted to identify the m...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41095841/?

## Visual Function Characteristics in <em>STXBP1</em> **Epileptic Encephalopathy Patients**

Dorota Pojda-

1 73 min words

LOW VISION

Summary: Background: The goal of the study was to describe the visual function characteristics of children with developmental epileptic encephalopathy resulting from mutations in the STXBP1 gene. Methods: The study included 26 consecutive patients from the Polish STXBP1 population (11 male and 16 female; mea...

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## **Fully Automated Segmentation of Cervical Spinal Cord in Sagittal MR Images Using Swin-Unet Architectures**

Utku Senol 1 67 min words

**LOW VISION** 

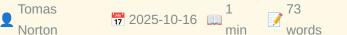
**Summary:** Background/Objectives: The spinal cord is a critical component of the central nervous system that transmits neural signals between the brain and the body's peripheral regions through its nerve roots. Despite being partially protected by the vertebral column, the spinal cord remains highly vulnerable...

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https://pubmed.ncbi.nlm.nih.gov/41096074/?

## **Monitoring Night-Time Activity Patterns of Laying Hens in Response to Poultry Red Mite Infestations Using Night-Vision** Cameras







LOW VISION

Summary: The poultry red mite (PRM) feeds on hens' blood at night, disrupting sleep, harming welfare, and reducing productivity. Effective control may lie in dynamic Integrated Pest Management (IPM), which relies on routine monitoring and adaptation to farm conditions. This study investigated how PRM infesta...

#### 

https://pubmed.ncbi.nlm.nih.gov/41096523/?

# Clinical Potential of Essential Oils: Cytotoxicity, Selectivity Index, and Efficacy for Combating Gram-Positive ESKAPE Pathogens



**Summary:** (1) Background: Essential oils (EOs) have emerged as promising antibacterial agents due to their broad-spectrum activity and low risk of resistance development. Therefore, this review aimed to assess the effectiveness of EOs against Gram-positive ESKAPE pathogens, and to evaluate their safety and to...

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https://pubmed.ncbi.nlm.nih.gov/41097295/?

## **Artificial Intelligence-Enhanced Liquid Biopsy and Radiomics** in Early-Stage Lung Cancer Detection: A Precision Oncology **Paradigm**

Shivaram P Arunachalam

1 57 Low vision min words

Summary: CONCLUSION: The integration of AI with liquid biopsy and radiomics holds transformative potential for early lung cancer detection. This non-invasive, scalable, and individualized diagnostic paradigm could significantly reduce lung cancer mortality through timely and targeted interventions. As techno...

#### **⊗** Read full article:

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## One-Hot Multi-Level Leaky Integrate-and-Fire Spiking Neural **Networks for Enhanced Accuracy-Latency Tradeoff**









Summary: Spiking neural networks (SNNs) hold significant promise as energy-efficient alternatives to conventional artificial neural networks (ANNs). However, SNNs require computations across multiple timesteps, resulting in increased latency, heightened energy consumption, and additional memory access overhe...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41098230/?

## The taste of trigeminal sensations: relation between taste, lingual tactile acuity, and spicy perception in patients with taste dysfunction

Thomas
Hummel

Thomas

Tactile Acuity

Thomas

Summary: In the oral cavity, oral stereognosis and chemesthesis refer to the abilities to recognize shapes and detect noxious substances, respectively, through various receptors distributed on the tongue. The absence of standardized methods to assess oral somatosensory perception has led to a lack of consens...

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/40434896/?

utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=1no\_pWrlHWS46ep2l9c VOQkZ1QsEMPlx7YY7aF6AfClqP-RYZd&fc=None&ff=20251016114410&v=2.18.0.post9+e462414

## **Measuring the Distribution of Tactile Acuity at the Index Finger and Thumb Fingertips**



1 75
min words

TACTILE ACUITY

Summary: In our day-to-day activities, we utilize not only the pads of our fingers but also the sides and hemispherical tips when manipulating objects. For teleoperation systems to replicate these real-life interactions, tactile sensation must be presented and distributed across the entire fingertip. Thus, u...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40526544/?

## Optimizing Vibrotactile Feedback for Sensory Substitution in the Thigh: Spatial Acuity and Frequency Characteristics

Leah R

Bent

1

2025-06-27

min

69

words

TACTILE ACUITY

**Summary:** Amputation of a lower limb not only affects mobility but also interferes with sensory feedback, leading to an elevated risk of falls among individuals living with amputation. Sensory substitution, achieved through tactile displays embedded in transfemoral prosthetic sockets, presents a promising non...

#### 

https://pubmed.ncbi.nlm.nih.gov/40577301/?

utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=1no\_pWrlHWS46ep2l9c VOQkZ1QsEMPlx7YY7aF6AfClqP-RYZd&fc=None&ff=20251016114410&v=2.18.0.post9+e462414

## Directional vibro-tactile hazard warnings for drivers with vision impairments

Alex R

Bowers

1

80

min

words

TACTILE ACUITY

Summary: Vision impairment may delay responses to hazards when driving. In a proof-ofconcept driving simulator study, we evaluated a hazard warning device designed for vision impaired drivers. Three groups participated: 11 persons with central vision loss (CVL; median age 60 years), 12 with homonymous field...

#### 

https://pubmed.ncbi.nlm.nih.gov/40601880/?

#### Sensitivity and vagal reactivity to C-tactile-mediated affective touch in mild cognitive impairment due to Alzheimer's disease







Summary: BackgroundC-tactile (CT) afferents preferentially activate in response to slow caress-like touch, evoking a diffuse pleasant sensation and promoting autonomic regulation. According to Braak's classic model, the neurodegenerative process in Alzheimer's disease (AD) only affects somatosensory cortices...

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/40746091/?

utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=1no\_pWrlHWS46ep2l9c VOQkZ1QsEMPlx7YY7aF6AfClqP-RYZd&fc=None&ff=20251016114410&v=2.18.0.post9+e462414

## Differences in tactile grid localization accuracy between people with back pain compared to individuals without pain









**Summary:** OBJECTIVES: The study aimed to investigate the grid localization test (GLT) between patients with lower back pain and those without back pain.

#### 

https://pubmed.ncbi.nlm.nih.gov/40850311/?

## **Eye Drop Instillation Success and Hand Function in Adults** with Glaucoma: A Pilot Study

Paula Anne Newman-Casev

1 74 TACTILE ACUITY words

Summary: CONCLUSIONS: Despite hand function deficits, in this exploratory pilot study, adults with glaucoma demonstrated eye drop instillation success comparable to those without glaucoma, though with higher rates of bottle tip contact with the eye, skin, or eyelashes, suggesting an increased risk of potenti...

#### 

https://pubmed.ncbi.nlm.nih.gov/40924900/?

utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=1no\_pWrlHWS46ep2l9c VOQkZ1QsEMPlx7YY7aF6AfClqP-RYZd&fc=None&ff=20251016114410&v=2.18.0.post9+e462414

## Functional evidence for early origin of tactile acuity in the vertebrate somatosensory system

Sviatoslav N Bagriantsev

1 2025-09-13 min 58 words

TACTILE ACUITY

Summary: Mammals and reptiles possess a sophisticated somatosensory system for precise tactile discrimination via mechanosensory end-organs, such as Meissner and Pacinian corpuscles and others. These structures detect sustained pressure, velocity, and vibrations, thereby facilitating nuanced environmental in...

#### 

https://pubmed.ncbi.nlm.nih.gov/40945511/?

## The coarse mental map of the breast is anchored on the nipple

Charles M

Greenspon

1

86

words

TACTILE ACUITY

Summary: Touch plays a key role in our perception of our body and shapes our interactions with the world, from the objects we manipulate to the people we touch. While the tactile sensibility of the hand has been extensively characterized, much less is known about touch on other parts of the body. Despite the...

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https://pubmed.ncbi.nlm.nih.gov/40964349/?

utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=1no\_pWrlHWS46ep2l9c VOQkZ1QsEMPlx7YY7aF6AfClqP-RYZd&fc=None&ff=20251016114410&v=2.18.0.post9+e462414

## **Haptic Feedback Systems for Lower-Limb Prosthetic** Applications: A Review of System Design, User Experience, and Clinical Insights







TACTILE ACUITY

Summary: Systems presenting haptic information have emerged as an important technological advance in assisting individuals with sensory impairments or amputations, where the aim is to enhance sensory perception or provide sensory substitution through tactile feedback. These systems provide information on lim...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41007234/?

## High-Definition Transcranial Direct Current Stimulation Improves Pain Empathy: A Randomized, Double-Blind, and Sham-Controlled Study Based on Event-Related Potentials (ERPs)



**Summary:** The impact of transcranial direct current stimulation (tDCS) on pain empathy is a subject of debate and controversy. The variations in the results could be attributed to differences in the stimulus parameters. This study aimed to examine the impact of high-definition transcranial direct current stim...

#### 

https://pubmed.ncbi.nlm.nih.gov/41089305/?

### Effectiveness of Transcranial Direct Current Stimulation on **Cognitive Function: A Pilot Study**

Alireza Akbarzade Baghban

1 68 min words

TDCS TACS TRNS

Summary: CONCLUSION: The findings suggest that employing tDCS techniques plays a pivotal role in enhancing specific executive functions, such as working memory, problemsolving, and planning, in patients with traumatic brain injuries. tDCS can be considered a complementary treatment option in the rehabilitat...

#### 

https://pubmed.ncbi.nlm.nih.gov/41089630/?

Efficacy of non-invasive brain stimulation combined with constraint-induced movement therapy on upper extremity function in patients who had a stroke: protocol for a systematic review and meta-analysis of randomised controlled trials



**Summary:** INTRODUCTION: Stroke remains a leading cause of death and long-term disability worldwide, with the majority of survivors experiencing functional impairments, particularly affecting the upper extremities (UEs). Although clinically widespread rehabilitation methods, such as physical and occupational t...

#### 

https://pubmed.ncbi.nlm.nih.gov/41093337/?

# Optimizing cognitive control through the interaction between stimulation intensity and duration in single-site and dual-site tDCS



**Summary:** In the present study, we investigated the relationship between tDCS dosage and the effects of single-site and dual-site tDCS. In Experiment 1, two types of stimulation intensities (1 mA or 1.5 mA) were applied while participants performed a Flanker task. In Experiment 2, two different stimulation du...

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/41093885/?

utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=143rKCPgMwbasrj66gQ1 r1ebioUg42SIGRyVKSoW4m6X-ecQ00&fc=None&ff=20251016114333&v=2.18.0.post9+e462414

# Effects of Transcranial Electrical Stimulation on Intermuscular Coherence in WuShu Sprint and KAN-Based EMG-Performance Function Fitting

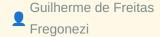


**Summary:** CONCLUSIONS: Targeted tDCS enhances neuromuscular coordination and sprint velocity, while KAN provides a transparent framework for performance modeling in elite sports.

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41095063/?

## **High-Definition Transcranial Direct Current Stimulation (HD**tDCS) Therapy in Amyotrophic Lateral Sclerosis: Study **Protocol for a Multicenter Randomized Controlled Clinical** Trial







TDCS TACS TRNS

Summary: Background/Objectives: Amyotrophic Lateral Sclerosis (ALS) is a progressive and fatal neurodegenerative disease characterized by motor neuron loss, muscle weakness, and respiratory dysfunction, often culminating in ventilatory failure. Evidence suggests that High-Definition Transcranial Direct Curre...

#### 

https://pubmed.ncbi.nlm.nih.gov/41095781/?

## **Effectiveness of Electrical Stimulation on Upper Limb Function in Children and Young People with Hemiplegic Cerebral Palsy: A Systematic Review**







Summary: Objectives: This review seeks to evaluate the effectiveness of electrical stimulation (ES) in improving upper limb function in children and young people (CYP) with hemiplegic cerebral palsy (HCP). Methods: A systematic literature search from inception until May 2025 was conducted. Various study desi...

#### 

https://pubmed.ncbi.nlm.nih.gov/41095797/?

## A Comprehensive Evaluation of Consumer Trends and the **Bioactive Content of Extra Virgin Olive Oil: Comparative Insights into Trademarked and Local Products**









TDCS TACS TRNS

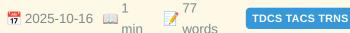
Summary: This multidisciplinary comparative study investigates consumption patterns, health-related properties, and quality attributes of trademarked and local extra virgin olive oil (EVOO) samples. It highlights the importance of localization in promoting agricultural sustainability, strengthening regional ...

#### 

https://pubmed.ncbi.nlm.nih.gov/41097552/?

## **Effects of Cerebellar tACS With Gamma Band on Basketball Shooting Skills: A Single-Blind, Randomized Controlled Trial** in College Students With Basketball Experience







Summary: CONCLUSIONS: Our results indicate that 70 Hz tACS over the cerebellum may improve basketball shooting skills. These results provide valuable insights into the practical application of tACS in sports. I The purpose of this study was to determine the effects of cerebellar tACS on basketball shooting s...

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/41097859/?

utm\_source=BucketBot&utm\_medium=rss&utm\_campaign=None&utm\_content=143rKCPgMwbasrj66gQ1 r1ebioUg42SIGRyVKSoW4m6X-ecQ00&fc=None&ff=20251016114333&v=2.18.0.post9+e462414

## Use of a Vertical Traction Device in the Management of an **Open Abdomen: A Case Report**







TDCS TACS TRNS

**Summary:** A laparostomy procedure, a critical intervention frequently employed in both trauma and non-trauma patients, is a key component of damage control resuscitation. The use of a vertical traction device (VTD), specifically Fasciotens® Abdomen (FTA), is a relatively novel technology that prevents fascial...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41098301/?

## Cambridge University launches project to rescue data trapped on old floppy disks

1 2025-10-12 min words HACKER NEWS

Summary: <a href="https://news.ycombinator.com/item?id=45557680">Comments</a>

https://www.lib.cam.ac.uk/stories/floppy-disk-funding

## VibTac: A High-Resolution High-Bandwidth Tactile Sensing Finger for Multi-Modal Perception in Robotic Manipulation



**Summary:** Tactile sensing is pivotal for enhancing robot manipulation abilities by providing crucial feedback for localized information. However, existing sensors often lack the necessary resolution and bandwidth required for intricate tasks. To address this gap, we introduce VibTac, a novel multi-modal tacti...

Read full article:

http://ieeexplore.ieee.org/document/10965524

### Age-Related Impact in Illusory Torque Cues Induced by **Asymmetric Vibrations**

1 197 min words

TRANSACTIONS HAPTICS

Summary: Illusory pulling sensations in the translational or rotational direction are induced by asymmetric vibrations applied to the fingertips. Although previous studies have discussed the involvement of mechanoreceptors associated with skin deformation and spatial processing in the parietal association co...

http://ieeexplore.ieee.org/document/10955171

#### Cardiac activity impacts spinal cord excitability. A Call to Return to the Roots

Syrov, N., Morozova, P., Popova, A., Melashenko, E., Takhirov, R., Knyshenko, M., Yakovlev, L., Benachour, A., Mustafina, A., Kaplan, A.

1 183 min words





**BIORXIV NEUROSCIENCE** 

**Summary:** The heart continuously shapes neural processing and behavior through cardiac-brain interactions. While cortical excitability fluctuations and their role in cardiacdependent cognitive and sensorimotor phenomena have been extensively studied, the temporal dynamics and contribution of spinal excitabil...

Read full article:

https://www.biorxiv.org/content/10.1101/2025.10.15.682433v1?rss=1

## A spatially-resolved human brain proteome atlas for understanding function and disease

Guo, T., Li, Y., Mao, Y., Jiang, T., Yang, Z., Yang, H., Luo, M., Gao, J., Yu, J., Jiang, W., Chen, M., Gu, J., Sun, Y., Liu, W., Zheng, X., Fan, N., Xu, F., Lein, E. S., Ge, W., Xie, Y., Xiao, Q., Lin, X., Xiang, W.







Summary: While the brain performs specialized functions across distinct regions, the spatial organization of the human brain proteome remains largely uncharted. Here we present a comprehensive spatially-resolved proteome atlas of the human brain, analyzing over two thousand MRI-guided locations across four i...



https://www.biorxiv.org/content/10.1101/2025.10.16.682772v1?rss=1

#### This Week in The Journal









JOURNAL NEUROSCIENCE THIS WEEK



http://www.jneurosci.org/cgi/content/short/45/42/etwij45422025?rss=1

### **Network Activity Shapes Inhibitory Synaptic Development in** the Mouse Hippocampus

Johnson-Venkatesh, E. M., Umemori,

1 249 min words

JOURNAL NEUROSCIENCE CURRENT

Summary: The proper development of excitatory/inhibitory (E/I) balance is critical for brain function, as any imbalance has been associated with myriad neuropsychiatric disorders. How this balance evolves during synaptic development remains unclear. To address this question, we examine how manipulations o...

Read full article:

http://www.jneurosci.org/cgi/content/short/45/42/e1182242025?rss=1

## Stereoelectroencephalography Reveals Neural Signatures of **Multisensory Integration in the Human Superior Temporal Sulcus during Audiovisual Speech Perception**

Zhang, Y., Magnotti, J. F., Zhang, X., Wang, Z., Yu, Y., Davis, K. A., Sheth, S. A., Isaac Chen, H., Yoshor, D., Beauchamp, M. S.

1 244 min 244



JOURNAL NEUROSCIENCE CURRENT

**Summary:** Human speech perception is multisensory, integrating auditory information from the talker's voice with visual information from the talker's face. BOLD fMRI studies have implicated the superior temporal gyrus (STG) in processing auditory speech and the superior temporal sulcus (STS) in integrating...

http://www.jneurosci.org/cgi/content/short/45/42/e1037252025?rss=1

#### **Competition between Tool and Hand Motion Impairs Movement Planning in Limb Apraxia**

Thibault, S., Yates, J. B., Buxbaum, L. J., Wong, A.

JOURNAL NEUROSCIENCE CURRENT

Summary: Tool use is a complex motor planning problem. Prior research suggests that planning to use tools involves resolving competition between different tool-related action representations. We therefore reasoned that competition may also be exacerbated with tools for which the motions of the tool and th...

Read full article:

http://www.jneurosci.org/cgi/content/short/45/42/e0692252025?rss=1

### **Largely Intact But Less Reliable and Distributed Neural** Representations of Subjective Value in Human Opioid Addiction

LoFaro, F. M., Gueguen, M. C. M., Kapoor, A., Alvarez, E. E., Bonagura, D., Konova, A.

1 232 min words



JOURNAL NEUROSCIENCE CURRENT

**Summary:** Addiction, particularly opioid use disorder (OUD), is often characterized by heightened propensity for risk-taking. While tolerance for risk and uncertainty varies across individuals, the elevated risk-taking in people with OUD is assumed to stem from altered cognitive decision-making processes b...

http://www.jneurosci.org/cgi/content/short/45/42/e0679252025?rss=1

## Metallothionein III Mediates Ca2+-Dependent Zn2+ Spikes to Inhibit Dendritic Arborization

Salvagio, L., Zhang, C., Rue, B. E., Doris, N., Koehring, C., Tyler, I., Vargas, R. S., Oh, W. C., Qin, Y.

1 2025-10-15 min 244 JOURNAL NEUROSCIENCE CURRENT words

**Summary:** Zinc is crucial for neuron function, but whether and how labile zinc ion (Zn<sup>2+</sup>) acts as an intracellular signaling molecule remains unclear. In this work, we investigate the relationship between Ca<sup>2+</sup> and Zn<sup>2+</sup> dynamics using fluorescence imaging. Our findings revea...

http://www.jneurosci.org/cgi/content/short/45/42/e0627252025?rss=1

### Marmoset Anterior Cingulate Area 32 Neurons Exhibit Responses to Presented and Produced Calls during Naturalistic Vocal Communication

Johnston, K. D., Gilliland, R. E., Wong, R. K., Everling,

1 154 min words

JOURNAL NEUROSCIENCE CURRENT

**Summary:** Vocal communication is a complex social behavior that entails the integration of auditory perception and vocal production. Both anatomical and functional evidence have implicated the anterior cingulate cortex (ACC), including area 32, in these processes, but the dynamics of neural responses in ar...

Read full article:

http://www.jneurosci.org/cgi/content/short/45/42/e0405252025?rss=1

#### How the Ventromedial Prefrontal Cortex (VMPFC) Facilitates **Welfare Maximization in Social Contexts**









http://www.jneurosci.org/cgi/content/short/45/42/e0221252025?rss=1

## Prenatal Downregulation of CB1 Cannabinoid Receptors in the Mouse Prefrontal Cortex Disrupts Cortical Lamination and **Induces a Transcriptional Signature Associated with Social** Interaction Deficits

Simon-Sanchez, S., den Boon, F., Garcia-Rincon, D., Skrempou, G., Paraiso-Luna, J., Aguilera, A., Nieto, M., Werkman, T. R., Guzman, M., Chameau, P., Galve-Roperh, I.







JOURNAL NEUROSCIENCE CURRENT

Summary: Endocannabinoid signaling exerts a neurodevelopmental regulatory role via CB<sub>1</sub> cannabinoid receptors (CB<sub>1</sub>Rs), which control pyramidal neuron differentiation, migration, and axonal guidance. Here, we investigated the longlasting consequences of transient prenatal CB<sub>1</su...



http://www.jneurosci.org/cgi/content/short/45/42/e0120252025?rss=1

## **Layer 6 Corticothalamic Neurons Induce High Gamma** Oscillations Through Cortico-cortical and Cortico-thalamocortical Pathways

Russo, S., Dimwamwa, E. D., Stanley, G.

1 249 min words

JOURNAL NEUROSCIENCE CURRENT

Summary: Layer 6 corticothalamic (L6CT) neurons project to both cortex and thalamus, inducing multiple effects including the modulation of cortical and thalamic firing, and the emergence of high gamma oscillations in the cortical local field potential (LFP). We hypothesize that the high gamma oscillations...

http://www.jneurosci.org/cgi/content/short/45/42/e0094252025?rss=1

#### This Week in The Journal



1 0 min words



JOURNAL NEUROSCIENCE CURRENT

http://www.jneurosci.org/cgi/content/short/45/42/etwij45422025?rss=1

#### Editorial: What makes us human: from genes to machine



1 0 words



FRONTIERS NEUROSCIENCE



https://www.frontiersin.org/articles/10.3389/fnins.2025.1682082

## Tor browser removing various Firefox AI features





Summary: <a href="https://news.ycombinator.com/item?id=45605842">Comments</a>

https://blog.torproject.org/new-alpha-release-tor-browser-150a4/

#### Tor browser removing various Firefox AI features

**Summary:** Article URL: <a href="https://blog.torproject.org/new-alpha-release-tor-browser-150a4/">https://blog.torproject.org/new-alpha-release-tor-browser-150a4/</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45605842">https://news.ycombinator.com/item?id=45605842">https://news.ycombinator.com/item?id=45605842</a> Points...

https://blog.torproject.org/new-alpha-release-tor-browser-150a4/

#### **Working with the Amiga's RAM and Rad Disks**

1 ibobev 7 2025-10-16 min 13 words

**Summary:** Article URL: <a href="https://www.datagubbe.se/ramdisk/">https://www.datagubbe.se/ramdisk/</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45606097">https://news.ycombinator.com/item?id=45606097</a> Points: 4 # Comments: 0

https://www.datagubbe.se/ramdisk/

### Editorial: Emerging practices in therapeutic targeting of neurodegenerative diseases by modulating protein kinases

BRAIN RESEARCH

Summary: Publication date: 15 November 2025<b>Source:</b> Brain Research, Volume 1867Author(s): Md.Imtaiyaz Hassan, Belgin Sever

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https://www.sciencedirect.com/science/article/pii/S0006899325005190?dgcid=rss sd all

## Altered social proximity in adult mice following prenatal stress Exposure: An exploratory link to cortical neurogenesis



**BRAIN RESEARCH** 

Summary: Publication date: 1 December 2025<b>Source:</b> Brain Research, Volume 1868Author(s): Tsukasa Tomoe, Rei Sugiyama, Niina Kiriyama, Airi Otsuka, Munekazu Komada

#### 

https://www.sciencedirect.com/science/article/pii/S0006899325005463?dgcid=rss\_sd\_all

## Gut dysbiosis in multiple sclerosis patients: a comparative analysis in fecal samples



https://www.nature.com/articles/s41598-025-19998-1

## Psychedelic 5-HT<sub>2A</sub> receptor agonism alters neurovascular coupling and differentially affects neuronal and hemodynamic measures of brain function



**Summary:** Nature Neuroscience, Published online: 13 October 2025; <a href="https://www.nature.com/articles/s41593-025-02069-z">doi:10.1038/s41593-025-02069-z</a>
Padawer-Curry et al. show that the hallucinogenic 5-HT2A receptor agonist DOI alters neurovascular coupling in mice, with implications for the...

https://www.nature.com/articles/s41593-025-02069-z

#### Statistical physics of large-scale neural activity with loops

David P. CarcamoChristopher W. LynnaDepartment of Physics, Yale University, New Haven, CT

06511bQuantitative Biology Institute, Yale University, New Haven, CT 06511cWu Tsai Institute, Yale University, New Haven, CT 06510



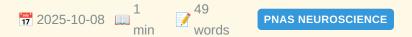
**Summary:** Proceedings of the National Academy of Sciences, Volume 122, Issue 41, October 2025. <br/>
SignificanceExperimental advances provide recordings of neural activity at unprecedented scales. But to understand how this activity emerges from the correlations between neurons, we need models that can simul...

https://www.pnas.org/doi/abs/10.1073/pnas.2426926122?af=R

## Transpupillary in vivo two-photon imaging reveals enhanced surveillance of retinal microglia in diabetic mice

Noriyuki SotaniSentaro KusuharaRyuto NishishoHiroto KunoHidenori ShimaKoichiro HaruwakaYuka MoriMaya KishiTomoyuki FuruyashikiKenta KobayashiHiroaki WakeToru TakumiMakoto NakamuraYoshihisa TachibanaaDepartment of Physiology and Cell Biology, Kobe University Graduate School of Medicine, Kobe 650-0017, JapanbDivision of Ophthalmology, Department of Surgery, Kobe University Graduate School of Medicine, Kobe 650-0017, JapancCenter for Neuroimmunology and Glial Biology, Institute of Molecular Medicine, University of Texas Health Science Center, Houston, TX 77030dDivision of Pharmacology, Kobe University Graduate School of Medicine, Kobe 650-0017,

Glial Biology, Institute of Molecular Medicine, Voice 650-0017, Saparic Center for Neuroinfindinology and 77030dDivision of Pharmacology, Kobe University Graduate School of Medicine, Kobe 650-0017, JapaneSection of Viral Vector Development, National Institute for Physiological Sciences, Okazaki 444-8585, JapanfDepartment of Anatomy and Molecular Cell Biology, Nagoya University Graduate School of Medicine, Nagoya 466-8550, Japan



**Summary:** Proceedings of the National Academy of Sciences, Volume 122, Issue 41, October 2025. <br/>
SignificanceNumerous studies have developed imaging techniques for visualizing diverse cell types in the retina. However, these techniques often face challenges such as low resolution and the need for technica...



https://www.pnas.org/doi/abs/10.1073/pnas.2426241122?af=R

# Editorial: Advancements in smart diagnostics for understanding neurological behaviors and biosensing applications



# Correction: Prenatal substance exposure and infant neurodevelopment: a review of magnetic resonance imaging studies



**⊗** Read full article:

https://www.frontiersin.org/articles/10.3389/fnhum.2025.1717377

## RSA-TransUNet: a robust structure-adaptive TransUNet for enhanced road crack segmentation



**Summary:** With the advancement of deep learning, road crack segmentation has become increasingly crucial for intelligent transportation safety. Despite notable progress, existing methods still face challenges in capturing fine-grained textures in small crack regions, handling blurred edges and significant wid...

https://www.frontiersin.org/articles/10.3389/fnbot.2025.1633697

### Approaches for retraining sEMG classifiers for upper-limb prostheses







FRONTIERS NEUROROBOTICS

**Summary:** IntroductionAbandonment rates for myoelectric upper limb prostheses can reach 44%, negatively affecting quality of life and increasing the risk of injury due to compensatory movements. Traditional myoelectric prostheses rely on conventional signal processing for the detection and classification of m...



https://www.frontiersin.org/articles/10.3389/fnbot.2025.1627872

## DWMamba: a structure-aware adaptive state space network for image quality improvement

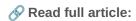






FRONTIERS NEUROROBOTICS

Summary: Overcoming visual degradation in challenging imaging scenarios is essential for accurate scene understanding. Although deep learning methods have integrated various perceptual capabilities and achieved remarkable progress, their high computational cost limits practical deployment under resource-cons...



https://www.frontiersin.org/articles/10.3389/fnbot.2025.1676787

#### Anodal transcranial direct current stimulation does not alter GABA concentration or functional connectivity in the normal visual cortex

1 244 min words

FRONTIERS NEUROSCIENCE

Summary: IntroductionAnodal direct current stimulation (a-tDCS) of the visual cortex is a potential rehabilitation tool for vision disorders such as amblyopia and macular degeneration. However, the underlying neural mechanisms are currently unknown. When applied to the human motor cortex, a-tDCS reduces the ...

**⊗** Read full article:

https://www.frontiersin.org/articles/10.3389/fnins.2025.1639838

## A pipelined, resource-efficient convolutional neural network architecture for detecting and diagnosing Alzheimer's disease using brain sMRI



V. 1 265 Sumathi min words



FRONTIERS NEUROSCIENCE

**Summary:** IntroductionAlzheimer's disease (AD) is a progressive neurological disorder that impairs memory and cognitive function in elderly individuals. Early detection is vital to slow disease progression and enable timely therapeutic intervention. Traditional diagnostic approaches for AD, however, often inv...

Read full article:

https://www.frontiersin.org/articles/10.3389/fnins.2025.1653565

## Balancing accuracy and efficiency: co-design of hybrid quantization and unified computing architecture for spiking neural networks



Liang 1 257
Chen min words

FRONTIERS NEUROSCIENCE

Summary: The deployment of Spiking Neural Networks (SNNs) on resource-constrained edge devices is hindered by a critical algorithm-hardware mismatch: a fundamental tradeoff between the accuracy degradation caused by aggressive quantization and the resource redundancy stemming from traditional decoupled hard...

#### **⊗** Read full article:

https://www.frontiersin.org/articles/10.3389/fnins.2025.1665778

## **Lightweight GAN for Restoring Blurred Images to Enhance Citrus Detection**



Pei 1 66 Wang min words





LOW VISION

**Summary:** Image blur is a major factor that degrades object detection in agricultural applications, particularly in orchards where crop occlusion, leaf movement, and camera shake frequently reduce image quality. This study proposed a lightweight generative adversarial network, AGG-DeblurGAN, to address non-un...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41095226/?

## Opportunistic Eye Disease Screening in Mazovia, Poland: **Lessons from a Local Government Program: "Good Vision for** Mazovians"

Radosław

1 2025-10-16 min 68 Low VISION

Summary: Background: Vision loss due to chronic eye diseases remains a significant public health challenge. Early detection through screening programs may reduce the burden of vision loss. This study aimed to assess the detection rate of eye diseases (glaucoma, AMD, and diabetic retinopathy), including those...

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/41095542/?

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### Interplay of Modifiable and Non-Modifiable Risk Factors for **Diabetes Mellitus in Saudi Adults**

Ibrahim M Gosadi

1 69 min words

LOW VISION

Summary: Background/Objectives: Diabetes Mellitus (DM) remains a critical public health issue in Saudi Arabia, shaped by complex interactions among genetic, lifestyle, and sociodemographic factors. This study explores interplay of modifiable and non-modifiable determinants of DM among Saudi adults. Methods: ...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41095670/?

## Which Physical Therapy Intervention Is Most Effective in **Reducing Secondary Lymphedema Associated with Breast Cancer? A Systematic Review and Network Meta-Analysis**







Summary: Background: Breast cancer-related lymphedema (BCRL) is a common complication that impairs function and quality of life (QoL). The comparative effectiveness of physical therapy interventions (PTIs) remains unclear. This systematic review and network meta-analysis (NMA) was conducted to identify the m...

#### **⊗** Read full article:

https://pubmed.ncbi.nlm.nih.gov/41095841/?

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## Visual Function Characteristics in <em>STXBP1</em> **Epileptic Encephalopathy Patients**







Summary: Background: The goal of the study was to describe the visual function characteristics of children with developmental epileptic encephalopathy resulting from mutations in the STXBP1 gene. Methods: The study included 26 consecutive patients from the Polish STXBP1 population (11 male and 16 female; mea...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41095919/?

## Fully Automated Segmentation of Cervical Spinal Cord in Sagittal MR Images Using Swin-Unet Architectures

Utku Şenol

1 67 min words



Summary: Background/Objectives: The spinal cord is a critical component of the central nervous system that transmits neural signals between the brain and the body's peripheral regions through its nerve roots. Despite being partially protected by the vertebral column, the spinal cord remains highly vulnerable...

#### 

https://pubmed.ncbi.nlm.nih.gov/41096074/?

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## **Monitoring Night-Time Activity Patterns of Laying Hens in** Response to Poultry Red Mite Infestations Using Night-Vision Cameras







LOW VISION

Summary: The poultry red mite (PRM) feeds on hens' blood at night, disrupting sleep, harming welfare, and reducing productivity. Effective control may lie in dynamic Integrated Pest Management (IPM), which relies on routine monitoring and adaptation to farm conditions. This study investigated how PRM infesta...

#### **Read full article:**

https://pubmed.ncbi.nlm.nih.gov/41096523/?

# Clinical Potential of Essential Oils: Cytotoxicity, Selectivity Index, and Efficacy for Combating Gram-Positive ESKAPE Pathogens



**Summary:** (1) Background: Essential oils (EOs) have emerged as promising antibacterial agents due to their broad-spectrum activity and low risk of resistance development. Therefore, this review aimed to assess the effectiveness of EOs against Gram-positive ESKAPE pathogens, and to evaluate their safety and to...

#### 

https://pubmed.ncbi.nlm.nih.gov/41097295/?

## **Artificial Intelligence-Enhanced Liquid Biopsy and Radiomics** in Early-Stage Lung Cancer Detection: A Precision Oncology **Paradigm**

Shivaram P Arunachalam

1 57 Low VISION min words

Summary: CONCLUSION: The integration of AI with liquid biopsy and radiomics holds transformative potential for early lung cancer detection. This non-invasive, scalable, and individualized diagnostic paradigm could significantly reduce lung cancer mortality through timely and targeted interventions. As techno...

#### **⊗** Read full article:

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## **One-Hot Multi-Level Leaky Integrate-and-Fire Spiking Neural Networks for Enhanced Accuracy-Latency Tradeoff**



1 65 min words



LOW VISION

Summary: Spiking neural networks (SNNs) hold significant promise as energy-efficient alternatives to conventional artificial neural networks (ANNs). However, SNNs require computations across multiple timesteps, resulting in increased latency, heightened energy consumption, and additional memory access overhe...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41098230/?

## The taste of trigeminal sensations: relation between taste, lingual tactile acuity, and spicy perception in patients with taste dysfunction

Thomas
Hummel

Thomas

Tactile Acuity

Thomas

Summary: In the oral cavity, oral stereognosis and chemesthesis refer to the abilities to recognize shapes and detect noxious substances, respectively, through various receptors distributed on the tongue. The absence of standardized methods to assess oral somatosensory perception has led to a lack of consens...

#### **⊗** Read full article:

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## **Measuring the Distribution of Tactile Acuity at the Index Finger and Thumb Fingertips**

Hiroyuki

1 75
min words

TACTILE ACUITY

Summary: In our day-to-day activities, we utilize not only the pads of our fingers but also the sides and hemispherical tips when manipulating objects. For teleoperation systems to replicate these real-life interactions, tactile sensation must be presented and distributed across the entire fingertip. Thus, u...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40526544/?

## Optimizing Vibrotactile Feedback for Sensory Substitution in the Thigh: Spatial Acuity and Frequency Characteristics

Leah R

Bent

1

2025-06-27

min

69

words

TACTILE ACUITY

**Summary:** Amputation of a lower limb not only affects mobility but also interferes with sensory feedback, leading to an elevated risk of falls among individuals living with amputation. Sensory substitution, achieved through tactile displays embedded in transfemoral prosthetic sockets, presents a promising non...

#### 

https://pubmed.ncbi.nlm.nih.gov/40577301/?

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## Directional vibro-tactile hazard warnings for drivers with vision impairments

Alex R

Bowers

1

80

min

words

TACTILE ACUITY

Summary: Vision impairment may delay responses to hazards when driving. In a proof-ofconcept driving simulator study, we evaluated a hazard warning device designed for vision impaired drivers. Three groups participated: 11 persons with central vision loss (CVL; median age 60 years), 12 with homonymous field...

#### 

https://pubmed.ncbi.nlm.nih.gov/40601880/?

## Sensitivity and vagal reactivity to C-tactile-mediated affective touch in mild cognitive impairment due to Alzheimer's disease







Summary: BackgroundC-tactile (CT) afferents preferentially activate in response to slow caress-like touch, evoking a diffuse pleasant sensation and promoting autonomic regulation. According to Braak's classic model, the neurodegenerative process in Alzheimer's disease (AD) only affects somatosensory cortices...

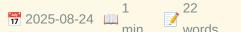
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## Differences in tactile grid localization accuracy between people with back pain compared to individuals without pain









**Summary:** OBJECTIVES: The study aimed to investigate the grid localization test (GLT) between patients with lower back pain and those without back pain.

#### 

https://pubmed.ncbi.nlm.nih.gov/40850311/?

## **Eye Drop Instillation Success and Hand Function in Adults** with Glaucoma: A Pilot Study

Paula Anne Newman-Casev

1 74 TACTILE ACUITY words

Summary: CONCLUSIONS: Despite hand function deficits, in this exploratory pilot study, adults with glaucoma demonstrated eye drop instillation success comparable to those without glaucoma, though with higher rates of bottle tip contact with the eye, skin, or eyelashes, suggesting an increased risk of potenti...

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## Functional evidence for early origin of tactile acuity in the vertebrate somatosensory system

Sviatoslav N Bagriantsev

1 2025-09-13 min 58 words

TACTILE ACUITY

Summary: Mammals and reptiles possess a sophisticated somatosensory system for precise tactile discrimination via mechanosensory end-organs, such as Meissner and Pacinian corpuscles and others. These structures detect sustained pressure, velocity, and vibrations, thereby facilitating nuanced environmental in...

#### 

https://pubmed.ncbi.nlm.nih.gov/40945511/?

## The coarse mental map of the breast is anchored on the nipple

Charles M

Greenspon

1

86

words

TACTILE ACUITY

Summary: Touch plays a key role in our perception of our body and shapes our interactions with the world, from the objects we manipulate to the people we touch. While the tactile sensibility of the hand has been extensively characterized, much less is known about touch on other parts of the body. Despite the...

#### 

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## **Haptic Feedback Systems for Lower-Limb Prosthetic** Applications: A Review of System Design, User Experience, and Clinical Insights









TACTILE ACUITY

Summary: Systems presenting haptic information have emerged as an important technological advance in assisting individuals with sensory impairments or amputations, where the aim is to enhance sensory perception or provide sensory substitution through tactile feedback. These systems provide information on lim...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41007234/?

## **Gradient Porous Flexible Pressure Sensors with the Relay** Effect for High-Accuracy Braille-to-Speech Recognition

Jianming 1 62
Xu min words

Summary: The development of highly sensitive, wide linear-range flexible pressure sensors is crucial for practical applications in human-computer interaction, physiological signal detection, and motion monitoring. However, traditional flexible pressure sensors often suffer from limited compressibility in the...

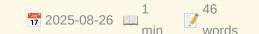
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## Individual and community level factors influencing modern contraceptive use among women of reproductive age in South Africa: a multilevel analysis









Summary: CONCLUSION: Sensory disability status influenced women's contraceptive behaviour in South Africa. Current family planning interventions should target women with sensory disabilities by prioritising accessible communication methods (e.g., braille, sign language), disability awareness training for hea...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40855574/?

#### **Explosion-powered eversible tactile displays**







BRAILLE

Summary: High-resolution electronic tactile displays stand to transform haptics for remote machine operation, virtual reality, and digital information access for people who are blind or visually impaired. Yet, increasing the resolution of these displays requires increasing the number of individually addressa...

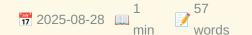
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## A Biomimetic Fiber-Entangled Permeable Electronic Skin for Strain-Insensitive and High-Resolution Tactile Sensing









BRAILLE

Summary: Electronic skins (e-skins) incorporating island architectures represent a promising platform for strain-insensitive tactile sensing by mechanically decoupling sensing units from deformations. However, conventional island designs encounter stress concentration issues caused by inherent modulus mismat...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40874468/?

## **High-Density Tactile Sensor Array for Sub-Millimeter Texture** Recognition







BRAILLE

Summary: High-density tactile sensor arrays that replicate human touch could restore texture perception in paralyzed individuals. However, conventional tactile sensor arrays face inherent trade-offs between spatial resolution, sensitivity, and crosstalk suppression due to microstructure size limitations and ...

#### 

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## A Diachronic Investigation of the Change in Form and Formational-Semantic Systematicity of the Chinese Sign **Language Lexicon**









**Summary:** It has been argued in previous research that several competing pressures guide the directions of language evolution (economy vs. redundancy; arbitrariness vs. systematicity). For sign languages, however, the effects of competing pressures on their change of lexical systems remain largely unclear. In...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/40889233/?

### Wireless Electrotactile System with Hydrogel-Based **Electrodes for Conformal Tactile Interaction**





1 2025-09-02 min 56 words





**Summary:** A wireless epidermal electrotactile interface is demonstrated through integration of skin-conformal electrodes and flexible circuitry, addressing existing limitations in haptic technology caused by mechanical mismatch and system-level integration challenges. This electrotactile system achieves low s...

#### 

https://pubmed.ncbi.nlm.nih.gov/40891563/?

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## Beyond access: rethinking assistive technology for individuals with visual impairments in Türkiye





1 55 min words





BRAILLE

Summary: CONCLUSION: Despite demonstrating adaptability, individuals with VI in Türkiye face significant structural barriers to equitable AT access. Informal learning limited public support, and a lack of locally adapted tools contribute to digital exclusion. A rightsbased approach-emphasizing inclusive fun...

#### 

https://pubmed.ncbi.nlm.nih.gov/40937808/?

# High prevalence of bacterial STI, anal HPV, cytological abnormalities and anal lesions among MSM in Togo, 2021: a baseline analysis of the ANRS I MIE 12,400/DepIST-H cohort



**Summary:** CONCLUSIONS: These findings emphasize the high prevalence of STIs among MSM and confirm the unusual distribution of HPV types in West Africa, with HPV35 being highly prevalent. A national strategy regarding STI screening and HPV vaccination in this key population is needed.

#### 

https://pubmed.ncbi.nlm.nih.gov/41013315/?

## **Development and Assessment of a Novel Audiosensory** Performance Method for Improving the Oral Health of Visually **Impaired Children**





**Summary:** This study evaluated the effectiveness of an audiosensory performance method in enhancing oral health knowledge and status among visually impaired children aged 6-12 years in the National Capital Region (NCR), Delhi. An interventional study design was used, involving 251 participants equally divided...

#### **⊗** Read full article:

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## Influence of context on extinguished appetitive conditioning in male and female rats.





BEHAVIORAL NEUROSCIENCE

**Summary:** Extinction is fundamental to adaptive behavior in that it allows organisms to alter previously conditioned behaviors based on the prevailing environmental contingencies. Extinguished responses, however, will renew when the conditioned stimulus is presented outside the extinction context. There has b...



http://doi.org/10.1037/bne0000626

## Gonadectomy maintains goal-directed responding in female rats and accelerates habit formation in male rats.

271
2025-04-07 min words

BEHAVIORAL NEUROSCIENCE

**Summary:** We have previously demonstrated that gonadally intact female rats become habitual following around 120 response—outcome (R-Os) exposures during operant training. This rapid development of habit does not occur in gonadally intact male rats, which remain goal-directed up to at least 320 R-Os. The pres...

http://doi.org/10.1037/bne0000622

#### **Monthly Updates [April]**



**Summary:** <div class="info custom-block">INFO These update threads only contains major updates. If you're interested in seeing all minor changes you can follow our <a href="https://github.com/fmhy/FMHYedit/commits/main" rel="noreferrer" target="\_blank">Commits Page</a> on ...

**Read full article:** 

https://fmhy.net/posts/april-2025

#### The Internet Archive needs your help.



**Summary:** A coalition of major record labels has filed a lawsuit against the Internet Archive—demanding <strong>\$700 million</strong> for our work preserving and providing access to historical 78rpm records. These fragile, obsolete discs hold some of the earliest recordings of a vanishing American culture....



https://fmhy.net/posts/support-ia

## **Monthly Updates [May]**



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https://fmhy.net/posts/may-2025

#### **Monthly Updates [June]**







FMHY

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https://fmhy.net/posts/june-2025

#### **Monthly Updates [July]**









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https://fmhy.net/posts/july-2025

#### **Monthly Updates [August]**



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#### **Monthly Updates [Sept]**



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FMHY

Summary: <h3 id="the-eu-still-wants-to-scan-your-private-messages-and-photos" tabindex="-1">The EU (still) wants to scan your private messages and photos. <a class="header-anchor" href="#the-eu-still-wants-to-scan-your-private-messages-andphotos"></a></h3> The &quot;Chat Control&quot; proposal would mand...



https://fmhy.net/posts/FCC

## DoorDash and Waymo launch autonomous delivery service in **Phoenix**







HACKER NEWS

Summary: <a href="https://news.ycombinator.com/item?id=45605501">Comments</a>



https://about.doordash.com/en-us/news/waymo

## **LINQ and Learning to Be Declarative**



Summary: <a href="https://news.ycombinator.com/item?id=45528508">Comments</a>

https://www.nickstambaugh.dev/posts/LINQ-and-being-declarative

## Why I Chose Elixir Phoenix over Rails, Laravel, and Next.js



Summary: <a href="https://news.ycombinator.com/item?id=45605291">Comments</a>

https://akarshc.com/post/phoenix-for-my-project.html

#### Lace: A New Kind of Cellular Automata Where Links Matter

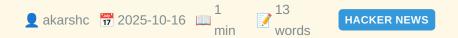
airesearcher 7 2025-10-16 min 13 HACKER NEWS

**Summary:** Article URL: <a href="https://www.novaspivack.com/science/introducing-lace-a-new-kind-of-cellular-automata">https://www.novaspivack.com/science/introducing-lace-a-new-kind-of-cellular-automata</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45605153">https://news.ycombinator...

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https://www.novaspivack.com/science/introducing-lace-a-new-kind-of-cellular-automata

## Why I Chose Elixir Phoenix over Rails, Laravel, and Next.js



**Summary:** Article URL: <a href="https://akarshc.com/post/phoenix-for-my-project.html">https://akarshc.com/post/phoenix-for-my-project.html</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45605291">https://news.ycombinator.com/item?id=45605291</a> Points: 22 # Comments: ...

https://akarshc.com/post/phoenix-for-my-project.html

### DoorDash and Waymo launch autonomous delivery service in Phoenix

ChrisArchitect 72 2025-10-16 min 13 words

**Summary:** Article URL: <a href="https://about.doordash.com/en-us/news/waymo">https://about.doordash.com/en-us/news/waymo</a> Comments URL: <a href="https://news.ycombinator.com/item?id=45605501">https://news.ycombinator.com/item?id=45605501</a> Points: 9 # Comments: 5

https://about.doordash.com/en-us/news/waymo

## Single video games improve cognitive functioning in college students: evidence from behavioral and fNIRS assessments



**Summary:** CONCLUSIONS: Cognitively engaging video games can effectively enhance the cognitive abilities of male college students. The underlying mechanism may be closely related to the promotion of prefrontal lobe activation by video games, which in turn improves reflective ability, processing speed, and deci...

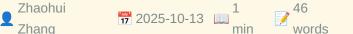
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## Prefrontal activation in bipolar and unipolar depression patients in the letter fluency tasks and category fluency tasks: a functional near-infrared spectroscopy study









Summary: CONCLUSION: Our findings indicate that the LFT elicits more extensive prefrontal activation, with differential engagement of the VLPFC in BD compared to UD. These results suggest potential neuroimaging biomarkers for distinguishing between UD and BD, while also providing insights into the neural sub...

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## Neural predictors of hidden, persistent psychological states at work









Summary: Common workplace challenges such as feeling overwhelmed, burned out, or disengaged often remain hidden due to fear of judgment or social norms, contributing to rising mental health crises and organizational dysfunction. This study presents a brainbased framework for predicting these hidden and pers...

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41082670/?

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## **Dose-Dependent Enhancement of Coordination through Multibrain Transcranial Stimulation: A fNIRS Hyperscanning** Study









**Summary:** Coordination serves as a fundamental driving force in the evolution of human society, and transcranial electrical stimulation (tES) is increasingly recognized for its ability to modulate human coordination. However, the neural mechanisms underlying coordination and whether tES positively influences ...

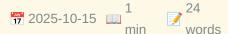
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## Functional connectivity in whole-brain and network analysis differentiates minimally conscious from unresponsive patients: a resting-state fNIRS study











Summary: CONCLUSION: fNIRS could effectively detect abnormal brain network functional connectivity in DOC patients and could provide valuable insights for differentiating MCS and VS/UWS patients.

#### Read full article:

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Predicting Individual Response to Acupuncture in Sensorineural Tinnitus Using Integrated Functional Near-Infrared Spectroscopy and Machine Learning: Protocol for a Model Development and Validation Study



**Summary:** CONCLUSION: This study represents the first attempt to integrate fNIRS detection with machine learning techniques for predicting acupuncture efficacy in SNT treatment. The methodology addresses several key challenges in acupuncture research through comprehensive data collection and advanced analytic...

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## Online Regulation of Task Difficulty based on Neuro- and Motor-feedback to improve engagement in Visual-motor Task





**Summary:** CONCLUSION: Our findings suggest that the proposed NMF system can enable online neural activity regulation in visual-motor tasks and achieve enhanced integration between cognitive and sensorimotor areas, with the potential to improve the rehabilitation training outcomes.

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## Effect of lower limb mirror visual feedback on cortical activation in healthy subjects: a self-controlled randomized trail











Summary: CONCLUSION: LLMVF increases neural activity in the sensory and motor related areas, indicating that LLMVF can promote more activation of brain functional areas, which verifies the top-down positive effect of LLMVF.

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## TSFNet: Temporal-Spatial Fusion Network for Hybrid Brain-Computer Interface



**Summary:** Unimodal brain-computer interfaces (BCIs) often suffer from inherent limitations due to the characteristic of using single modalities. While hybrid BCIs combining electroencephalography (EEG) and functional near-infrared spectroscopy (fNIRS) offer complementary advantages, effectively integrating th...

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Diagnostic Efficacy of Olfactory Function Test Using Functional Near-Infrared Spectroscopy with Machine Learning in Healthy Adults: A Prospective Diagnostic-Accuracy (Feasibility/Validation) Study in Healthy Adults with Algorithm Development



**Summary:** Background/Objectives: The YSK olfactory function (YOF) test is a culturally adapted psychophysical tool that assesses threshold, discrimination, and identification. This study evaluated whether functional near-infrared spectroscopy (fNIRS) synchronized with routine YOF testing, combined with machin...

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## Precision TMS through the integration of neuroimaging and machine learning: optimizing stimulation targets for personalized treatment



**Summary:** Transcranial Magnetic Stimulation (TMS), a non-invasive neuromodulation technique based on electromagnetic induction, modulates cortical excitability by inducing currents with a magnetic field. TMS has demonstrated significant clinical potential in the treatment of various neuropsychiatric disorders...

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+e462414

## A time-frequency feature fusion-based deep learning network for SSVEP frequency recognition

Jijun 1 62
Tong min words

BRAIN COMPUTER INTERFACE

Summary: INTRODUCTION: Steady-state visual evoked potential (SSVEP) has emerged as a pivotal branch in brain-computer interfaces (BCIs) due to its high signal-to-noise ratio (SNR) and elevated information transfer rate (ITR). However, substantial inter-subject variability in electroencephalographic (EEG) sig...

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## Participant Engagement, Epistemic Injustice, and Early-Phase **Implanted Neural Device Research**

Ashley Feinsinger

1 2025-10-15 min 66 words

**BRAIN COMPUTER INTERFACE** 

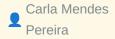
Summary: In recent years, participant engagement initiatives in research on implanted neural devices have significantly increased. However, there remains little consensus on the motivations, goals, and best practices for engagement efforts. Drawing on the concept of participatory epistemic injustice, we argu...

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## **Recommendations for Combining Brain-Computer Interface,** Motor Imagery, and Virtual Reality in Upper Limb Stroke **Rehabilitation: Qualitative Participatory Design Study**







BRAIN COMPUTER INTERFACE

Summary: CONCLUSIONS: Current results contribute to establishing clear guidelines on patient selection, task design, intervention structuring, motivation factors, and tailoring of sensory feedback. This framework presents a foundation for optimal implementation of VR-BCI-based interventions that associate MI...

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## An EEG-based Imagined Speech Database for comparing **Paradigm Designs**

Luz María Alonso-Valerdi 1 2025-10-15 min words

Summary: Brain-computer interfaces (BCIs) attempt to establish a connection between the human mind and a computer system. While recent computational advances continue to improve these interfaces, human factors have been overlooked. Factors such as fatigue and attention play a key role in brain signal modulat...

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## **Passive Brain-Computer Interface Using Textile-Based** Electroencephalography

Sujoy Ghosh Hajra

1 2025-10-16 min 65 words



BRAIN COMPUTER INTERFACE

Summary: Background: Passive brain-computer interface (pBCI) systems use a combination of electroencephalography (EEG) and machine learning (ML) to evaluate a user's cognitive and physiological state, with increasing applications in both clinical and non-clinical scenarios. pBCI systems have been limited by ...

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## TSFNet: Temporal-Spatial Fusion Network for Hybrid Brain-**Computer Interface**

Xiaoyang
Yuan

1
2025-10-16 min

63
BRAIN COMPUTER INTERFACE

Summary: Unimodal brain-computer interfaces (BCIs) often suffer from inherent limitations due to the characteristic of using single modalities. While hybrid BCIs combining electroencephalography (EEG) and functional near-infrared spectroscopy (fNIRS) offer complementary advantages, effectively integrating th...

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## **Motor Imagery Acquisition Paradigms: In the Search to Improve Classification Accuracy**



1 71 min words





BRAIN COMPUTER INTERFACE

Summary: In recent years, advances in medicine have been evident thanks to technological growth and interdisciplinary research, which has allowed the integration of knowledge, for example, of engineering into medical fields. This integration has generated developments and new methods that can be applied in a...

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# Investigation of the Prognostic Value of Novel Laboratory Indices in Patients with Sepsis in an Intensive Care Unit: A Retrospective Observational Study





BRAIN COMPUTER INTERFACE

**Summary:** Background: This study aimed to evaluate the prognostic value of some novel laboratory indices in intensive care unit (ICU)-hospitalized sepsis patients. Methods: This retrospective, observational study included 400 patients with sepsis. The indices studied were the C-reactive protein/albumin ratio ...

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+e462414

## Effectiveness of Electroencephalographic Neurofeedback for Parkinson's Disease: A Systematic Review and Meta-Analysis

Andrew Cooke

1 63 min words

BRAIN COMPUTER INTERFACE

Summary: Background: Electroencephalographic (EEG) neurofeedback training is gaining traction as a non-pharmacological treatment option for Parkinson's disease (PD). This paper reports the first pre-registered, integrated systematic review and meta-analysis of studies examining the effects of EEG neurofeedba...

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#### **Automating your heating with Octopus Energy AGILE tariff**

REDDIT PYTHON

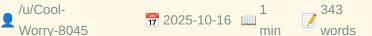
Summary: <!-- SC\_OFF --><div class="md">Hi all, I've just made a Python tutorial for how you can automate your electric heaters during the Agile Energy Plunge Pricing, in the UK. Effectively, we're automatically switching on our smart plugs (electric radiators), when the price of electricity is neg...

#### **Read full article:**

https://www.reddit.com/r/Python/comments/1o86j5t/automating\_your\_heating\_with\_octopus\_energy\_agile/

#### InfoLens - A python based GUI dashboard





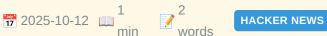


REDDIT PYTHON

Summary: <!-- SC OFF --><div class="md">Hello everyone! I've been working on a Python project called <strong>InfoLens,</strong> a <strong>CustomTkinter</ strong>-based <strong>GUI dashboard</strong> that fetches and displays personalized information across multiple genres — <strong>news, finance,</s...

https://www.reddit.com/r/Python/comments/1086n2t/infolens\_a\_python\_based\_gui\_dashboard/

#### VOC injection into a house reveals large surface reservoir sizes



Summary: <a href="https://news.ycombinator.com/item?id=45554004">Comments</a>

https://www.pnas.org/doi/10.1073/pnas.2503399122

## **Hyperflask – Full stack Flask and Htmx framework**

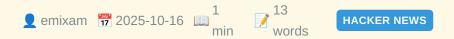


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## **Hyperflask – Full stack Flask and Htmx framework**



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#### Like MS Excel, Pivot tables never die

articsputnik 7 2025-10-16 min 13 HACKER NEWS

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## Processing Mandarin Chinese classifiers as a lexicosyntactic feature during noun phrase production

min 16
words

BRAIN RESEARCH

**Summary:** Publication date: 1 December 2025<b>Source:</b> Brain Research, Volume 1868Author(s): Jin Wang, Jurriaan Witteman, Niels O. Schiller

https://www.sciencedirect.com/science/article/pii/S000689932500558X?dgcid=rss\_sd\_all

## **Neuroanatomical correlates of auditory and visual statistical** learning: Cortical and subcortical volume predictors

NEUROSCIENCE JOURNAL

Summary: Publication date: 10 November 2025<b>Source:</b> Neuroscience, Volume 587Author(s): Praveen Prem, Sukhmani Kaur Saggu, Adwoa Boadu, Sarah Saju, Kelly Nisbet, Jacqueline Cummine

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## The effect of development on cortical auditory evoked potentials in normal hearing listeners and cochlear implant users



1 257 min words

FRONTIERS HUMAN NEUROSCIENCE

Summary: IntroductionCortical auditory evoked potentials (CAEPs), such as the P1-N1-P2 complex (onset response) and the acoustic change complex (ACC), provide insight into sound detection and discrimination. While their developmental trajectories are well documented in normal-hearing (NH) listeners, less is ...

https://www.frontiersin.org/articles/10.3389/fnhum.2025.1473365

## Prognostic value of quantitative and visual electroencephalography in disorders of consciousness: a retrospective study

■ Itaru 1 252
Miura min words

FRONTIERS NEUROSCIENCE

Summary: BackgroundElectroencephalography (EEG) is widely used to assess prognosis in patients with disorders of consciousness (DoC). Visual assessments by physicians and quantitative EEG (gEEG) are commonly used; however, only a few studies have directly compared their predictive accuracy. Therefore, in thi...

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#### Single video games improve cognitive functioning in college students: evidence from behavioral and fNIRS assessments

1 43 min words

**FNIRS** 

Summary: CONCLUSIONS: Cognitively engaging video games can effectively enhance the cognitive abilities of male college students. The underlying mechanism may be closely related to the promotion of prefrontal lobe activation by video games, which in turn improves reflective ability, processing speed, and deci...

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## Prefrontal activation in bipolar and unipolar depression patients in the letter fluency tasks and category fluency tasks: a functional near-infrared spectroscopy study









Summary: CONCLUSION: Our findings indicate that the LFT elicits more extensive prefrontal activation, with differential engagement of the VLPFC in BD compared to UD. These results suggest potential neuroimaging biomarkers for distinguishing between UD and BD, while also providing insights into the neural sub...

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### Neural predictors of hidden, persistent psychological states at work









Summary: Common workplace challenges such as feeling overwhelmed, burned out, or disengaged often remain hidden due to fear of judgment or social norms, contributing to rising mental health crises and organizational dysfunction. This study presents a brainbased framework for predicting these hidden and pers...

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## **Dose-Dependent Enhancement of Coordination through Multibrain Transcranial Stimulation: A fNIRS Hyperscanning** Study









**Summary:** Coordination serves as a fundamental driving force in the evolution of human society, and transcranial electrical stimulation (tES) is increasingly recognized for its ability to modulate human coordination. However, the neural mechanisms underlying coordination and whether tES positively influences ...

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## Functional connectivity in whole-brain and network analysis differentiates minimally conscious from unresponsive patients: a resting-state fNIRS study



1 24 min words







Summary: CONCLUSION: fNIRS could effectively detect abnormal brain network functional connectivity in DOC patients and could provide valuable insights for differentiating MCS and VS/UWS patients.

#### Read full article:

https://pubmed.ncbi.nlm.nih.gov/41088235/?

## Predicting Individual Response to Acupuncture in Sensorineural Tinnitus Using Integrated Functional Near-Infrared Spectroscopy and Machine Learning: Protocol for a Model Development and Validation Study



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## Effect of lower limb mirror visual feedback on cortical activation in healthy subjects: a self-controlled randomized trail



Li 1 31 words







Summary: CONCLUSION: LLMVF increases neural activity in the sensory and motor related areas, indicating that LLMVF can promote more activation of brain functional areas, which verifies the top-down positive effect of LLMVF.

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https://pubmed.ncbi.nlm.nih.gov/41094934/?

Diagnostic Efficacy of Olfactory Function Test Using Functional Near-Infrared Spectroscopy with Machine Learning in Healthy Adults: A Prospective Diagnostic-Accuracy (Feasibility/Validation) Study in Healthy Adults with Algorithm Development



**Summary:** Background/Objectives: The YSK olfactory function (YOF) test is a culturally adapted psychophysical tool that assesses threshold, discrimination, and identification. This study evaluated whether functional near-infrared spectroscopy (fNIRS) synchronized with routine YOF testing, combined with machin...

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## Thursday Daily Thread: Python Careers, Courses, and Furthering Education!

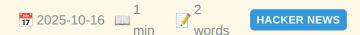


**Summary:** <!-- SC\_OFF --> <div class="md"> <h1> Weekly Thread: Professional Use, Jobs, and Education <a></a> </b>Welcome to this week's discussion on Python in the professional world! This is your spot to talk about job hunting, career growth, and educational resources in Python. Please note, this thread is <stron...</p>

#### **Read full article:**

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## Launch HN: Inkeep (YC W23) - Open-Source Agent Builder



Summary: <a href="https://news.ycombinator.com/item?id=45604700">Comments</a>

https://github.com/inkeep/agents

#### Nightmare Fuel: What is Skibidi Toilet, How it demos a nonnarrative future



Summary: <a href="https://news.ycombinator.com/item?id=45604372">Comments</a>

https://journal.media-culture.org.au/index.php/mcjournal/article/view/3108

## **European.cloud: A Curated Directory of EU-Based Cloud Providers**

1 2025-10-16 min words HACKER NEWS

Summary: <a href="https://news.ycombinator.com/item?id=45604672">Comments</a>

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#### Nightmare Fuel: What is Skibidi Toilet, How it demos a nonnarrative future



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