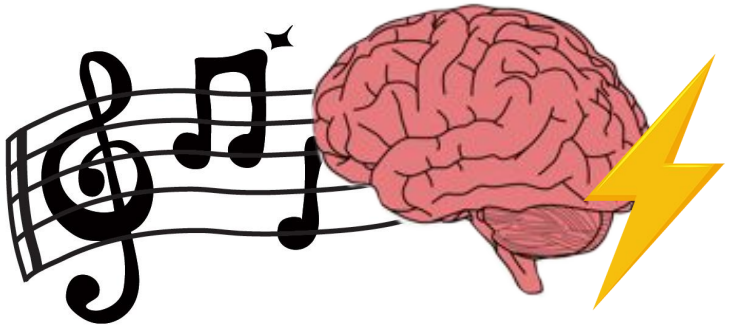
Brain Sound



BRAINHACK WESTERN 2019

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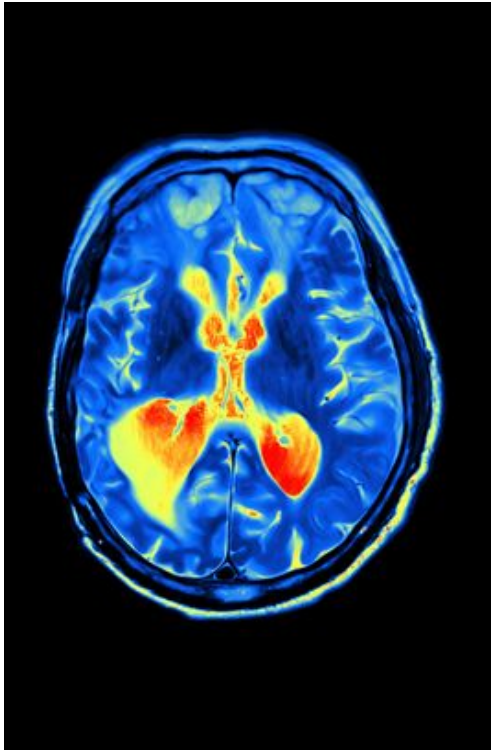
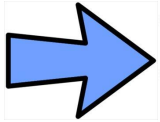
What is the problem?

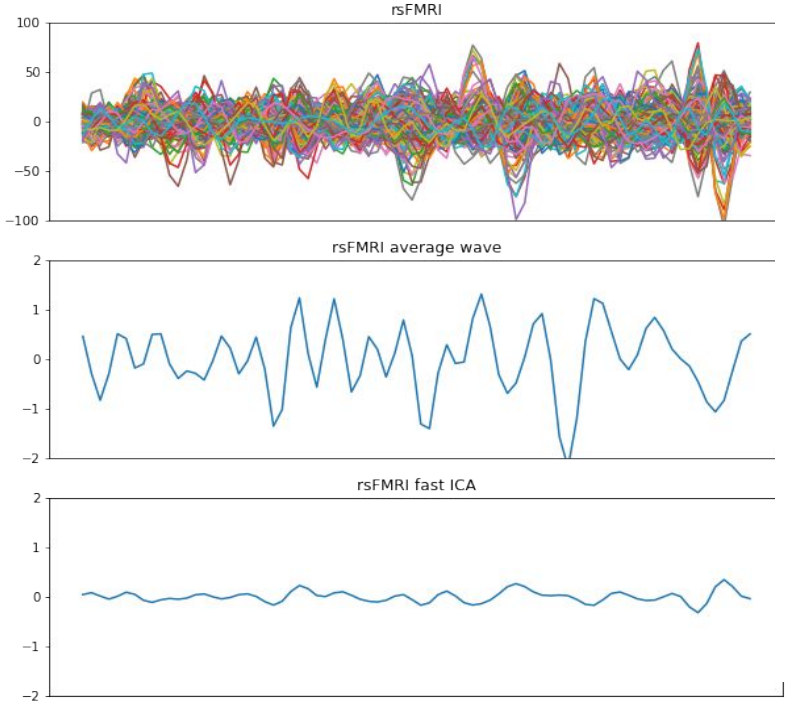
- Neuroscientists study **the brain** for **science.**
- **The ears** (auditory cortex) are **better** suited for detecting **patterns** over time than **the eyes**[2].
- **Blood-oxygen-level-dependent (BOLD)** imaging has **a poor contrast** to **noise ratio**[1].
- Musicians study **music** in the pursuit of **art.**

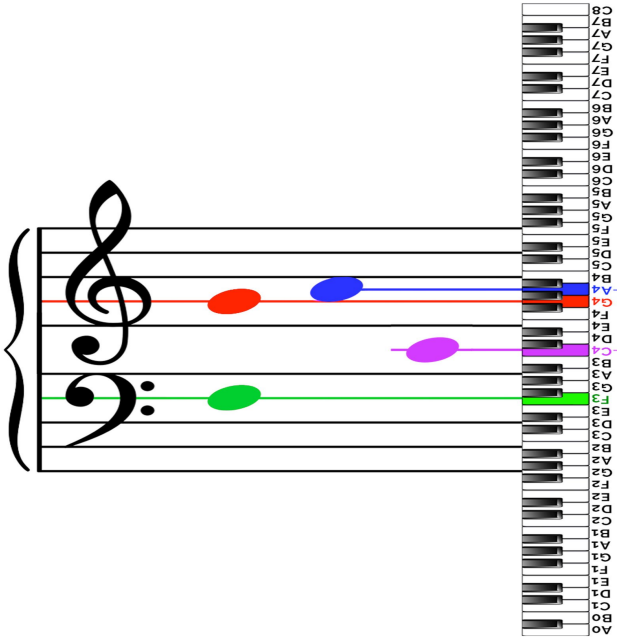
What is the solution?





How Do we do it?



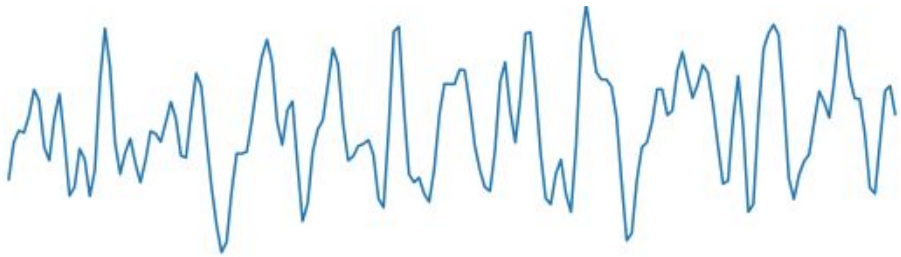


Autism

under-connectivity [3]

ADHD

increased functional connectivity [4]



Thank you all for listening! :)
And special thanks to the brainhack organization team

REFERENCES

[1]: Neurosurg Clin N Am. 2011 Apr; 22(2): 133–139. doi: 10.1016/j.nec.2010.11.001
[2]: The Psychology of Music, Diana Deutsch, Academic Press, Third Edition.
[3] Hull, J., Dokovna, L., Jacokes, Z., Torgerson, C., Irimia, A., & Van Horn, J. (2017). Resting-State Functional Connectivity in Autism Spectrum Disorders: A Review. *Frontiers in Psychiatry, 7*, 205.
[4] Michelini, G., Jurgiel, J., Bakolis, I., Cheung, C., Asherson, P., Loo, S., . . . Mohammad-Rezazadeh, I. (2019). Atypical functional connectivity in adolescents and adults with persistent and remitted ADHD during a cognitive control task. *Translational Psychiatry,9*(1), 137.
[5]: {carolFrohlich}, {2015}, {brain-orchestra}

Notebook will be posted soon!