

# Ido Haber

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idossha.github.io

## Education - University of Wisconsin - Madison

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<b>PhD in Neuroengineering</b> Focus: EEG, Temporal Interference, Multi-modal Simulation	September 2023 – Present
<b>MSc in Biomedical Engineering</b> Focus: Neural Plasticity, Electrophysiology	December 2023
<b>BSc in Neurobiology &amp; Psychology</b>	December 2021

## Academic Experience - University of Wisconsin-Madison

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<b>Researcher, Center of Sleep and Consciousness – Department of Psychiatry</b> • Perform frequent hd-EEG data analysis in MATLAB, EEGLAB • Deliver TES using temporal interference at kHz frequencies in a clinical setting • Lead researcher on a DARPA funded clinical study with a 15M\$ budget • Develop a multi-modal pipeline for in silico TES simulations	September 2022 – Present
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<b>Researcher, Hai's Lab - Department of Biological Engineering</b> • Simulated behavior of magnetoelectric nanoparticles in COMSOL Multiphysics • Investigate the effects of 5HT2A receptor agonists on the behavior of neural cultures • Plate neuronal cultures for calcium imaging, MEA recordings, protein labeling, and protocol optimization • Mentor an undergraduate student in day-to-day lab operations	January 2021 – Present
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<b>Graduate Teaching Assistant – Psych 225, Research Methods - Department of Psychology</b> • Provide support for professors by holding office hours, teaching two labs a week, and exam proctoring • Facilitate hands-on tasks in classroom while optimizing student's learning • Provide feedback on writing assignments as part of Communication B coursework	August 2022 – May 2023
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<b>Undergraduate Research Assistant, Barnes Lab - Department of Kinesiology</b> • Researched the effect of aging and lifestyle on cerebral blood flow regulation in humans and its association to age related diseases • Analyzed changes in CBF in response to chemical and metabolic stressors pre & post administration of cyclooxygenase inhibitors	May 2018 - May 2019
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## Industry Experience

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<b>Business Consultant, Video Editor, Content Creator - Effectivate, Tel Aviv, Israel</b> • Conducted literature research and UX testing for the R&D team • Increased sales and significantly lowered cost per lead in three months • Created content for the marketing division using Final Cut Pro, Photoshop, Mailchimp • Worked closely with the CEO on future business decisions - Manager of business development in the United States	May 2020 - July 2022
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<b>Project Manager &amp; National Expansion Committee Member - TAMID Group, Madison, WI</b> • Advised top universities across the United States during their beta process on a student national team • Lead teams of business-oriented UW students in pro bono consulting cases for innovative Israeli startups • Utilized strong communication and leadership skills by facilitating instruction from company executives to team members	September 2019 - December 2020
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## Skills

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- BioMEMs, Microfabrication, Calcium Imaging, MEA recording, Protein labeling
- Modeling: SimNIBS, Gmsh, LTspice, Sim4Life, COMSOL Multiphysics, Altium Designer, Adobe Illustrator, Inkscape
- Programming: Python, Bash, MATLAB, HTML, CSS, C++, Markdown, Latex
- Tech: Unix architecture, TMUX, NVIM, Docker, Git, Cookiecutter, Jinja, Overleaf
- Neuroscience: FSL, Freesurfer, MRtrix, MNE, YASA, EEGLAB
- Other: TouchDesigner, Ableton Live, Final Cut Pro, MyBusiness CRM
- Languages - Hebrew (Native)

## Leadership Experience

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**National Athlete & Swim Instructor - Israeli National Swimming Team, UW Madison Varsity Team** April 2010 - October 2019

- Israeli record holder in 400m free and 800m free relays from 2014 - 2019
- Volunteered to engage children with disabilities in water activities
- Learned the importance of diligence, goal setting and dedication
- Balanced more than 20 hours of weekly practice in addition to competition, travel, and schoolwork

**Air Force Sergeant - Israeli Defense Force, Haifa, Israel**

October 2014 - August 2017

- Worked in a small team to facilitate communication inside the base
- Developed personal characteristics - work ethic, critical thinking, attention to details, and work under pressure
- Honorably discharged as a sergeant

**Community Leader - ScienceAbroad**

June 2024 - Present

- Facilitates monthly meetings with desired personnel to the Israeli PhD community aboard

## Publications, Projects, Posters

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- I. Bok, I. Haber, X. Qu, and A. Hai, "In silico assessment of electrophysiological neuronal recordings mediated by magnetoelectric nanoparticles," *Sci Rep*, vol. 12, no. 1, p. 8386, May 2022, doi: 10.1038/s41598-022-12303-4.
- ECG + Pulse Ox - <https://drive.google.com/drive/folders/10uGYS7CXJQ751NF3P9uFTWZWvPvpn-pl?usp=sharing>
- Force Sensor for Robotic Arm - [https://drive.google.com/file/d/18JYXeTpfGz7B70NRjXhDZeID5ZKbVr\\_p/view?usp=drive\\_link](https://drive.google.com/file/d/18JYXeTpfGz7B70NRjXhDZeID5ZKbVr_p/view?usp=drive_link)
- Microfluidic Devices to Study Neuronal Axon Networks in A Biomimetic Alzheimer Milieu - [https://drive.google.com/file/d/1zZdL\\_4StZs66zeTL4-Baq-r7gIvAQwHX/view?usp=share\\_link](https://drive.google.com/file/d/1zZdL_4StZs66zeTL4-Baq-r7gIvAQwHX/view?usp=share_link)
- Toward Translational Optogenetics: A Survey of The Limitations and Advancement in Bringing Light-Induced Neuromodulation To The Clinic - [https://drive.google.com/file/d/11VW9P2xVTX1k5K0X5pmi\\_cuzPJvIxA0Z/view?usp=share\\_link](https://drive.google.com/file/d/11VW9P2xVTX1k5K0X5pmi_cuzPJvIxA0Z/view?usp=share_link)
- A Mini Review of 5HT2A Receptor Agonists: From Microtubules to Altered States of Consciousness - [https://drive.google.com/file/d/1TxEOf0kBGyJLVv1BN6UxITUtsFrNbsjJ/view?usp=share\\_link](https://drive.google.com/file/d/1TxEOf0kBGyJLVv1BN6UxITUtsFrNbsjJ/view?usp=share_link)
- The Effects of Habitual Exercise and Age on the Cerebrovascular Response to a Metabolic Stimulus - [https://drive.google.com/file/d/1FOSIfUoLN\\_rWCerzQT1CcUdT\\_nzHnOq3/view?usp=sharing](https://drive.google.com/file/d/1FOSIfUoLN_rWCerzQT1CcUdT_nzHnOq3/view?usp=sharing)
- Psychedelic-Assisted Psychotherapy for Treatment of Persistent and Unresponsive Depression - [https://docs.google.com/presentation/d/1XKgcA6d26i9wmO4iLF1yyR\\_ivx5lg8Fm/edit?usp=share\\_link&oid=100516471992997923965&rtpof=true&sd=true](https://docs.google.com/presentation/d/1XKgcA6d26i9wmO4iLF1yyR_ivx5lg8Fm/edit?usp=share_link&oid=100516471992997923965&rtpof=true&sd=true)

## References:

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### Professor Giulio Tononi PhD

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Director of the Wisconsin Institute for Sleep and Consciousness  
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### Stephanie Jones PhD

University of Wisconsin-Madison  
Department of Psychiatry  
Assistant Director of the Wisconsin Institute for Sleep and Consciousness  
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### Professor Aviad Hai PhD

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