JOHNS HOPKINS
AI & TECHNOLOGY
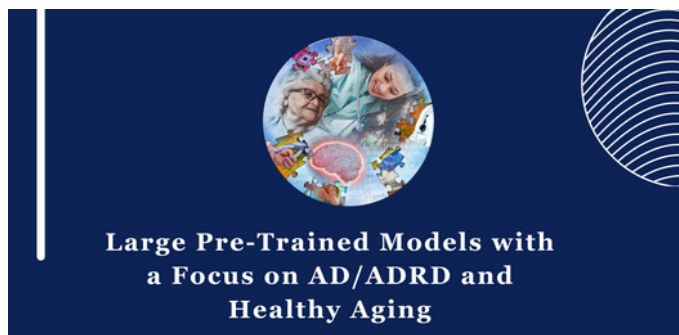COLLABORATORY
for AGING RESEARCH

FEATURED JH AITC GRANT YEAR 1 AWARDEE: SEQUOIA

People in their fifties get 80% less slow-wave sleep than people in their twenties. This dramatic decrease is alarming, as SWS is the most restorative phase of sleep and facilitates memory consolidation as well as the clearing of plaques associated with Alzheimer's disease. Improving SWS in older adults holds promise as a therapy for these and other age-associated health problems. To date, the best-studied and most successful method of SWS enhancement is acoustic stimulation. AS has been validated as an effective slow wave driver by sleep laboratories around the world and has been linked to exciting clinical effects, including improvements in memory. This technique involves measuring brain activity via electroencephalography and feeding those data into an AI algorithm to precisely time the delivery of specialized sounds to the user which stimulates the brain, enhancing slow wave activity. Sequoia is developing a wearable technology that makes AS accessible to older adults in the comfort of their own homes. By adapting this technology to the unique needs of older adults and packaging the complex sensors, circuitry, and algorithms required for AS into a comfortable and easy-to-use headband, they are translating this laboratory technique into an accessible therapy. This developmental work will entail an exploratory usability study to thoroughly understand essential design features. The resulting information will be used to focus prototyping efforts as the team continues algorithm development. To validate the results of this work, they propose a small clinical feasibility evaluation of their prototype device.

MONTHLY WEBINARS

For November,
Drs . Phillip Phan and **Suchi Saria**
presented
"Navigating the AI Research-to-Startup Journey: Insights and Reflections."

It can be viewed at
https://aitc.jhu.edu/monthly-webinars/
or by scanning the QR code below.

Large Pre-Trained Models with a Focus on AD/ADRD and Healthy Aging

UPCOMING WORKSHOP ON CHATGPT:

The JH AITC is hosting a one-day workshop, "Large Pre-Trained Models with a Focus on AD/ADRD and Healthy Aging," on Thursday, December 14, 2023, in Baltimore, MD. The workshop is expected to run from 8:30 a.m. to 4:30 p.m. ET and will include opening remarks, a keynote speaker, invited talks, and panel discussions. Speakers include: Daniel Khashabi (Johns Hopkins University), Victor Wang (Carecoach), Mark Dredze (JHU), Richard Everts (Bestie Bot), Sudeshna Das (Harvard University), and Joe Velderman (Cypress Living).