NEWSLETTER – OCTOBER 2023

FEATURED JH AITC GRANT YEAR 1 AWARDEE: VIGOROUS MIND

Physical and verbal agitation, found in 80% of nursing home residents with Alzheimer's disease and Alzheimer's disease related dementias can pose a major problem for the resident and their family and professional caregivers. The inability to successfully manage dementia behaviors often results in increased burden on caregivers, use of physical restraints, and/or pharmacological interventions. Use of antipsychotic and psychotropics medications increases the risk of death and of falls and fractures in patients with dementia. But Vigorous Mind is integrating an AI-based facial expression analysis software with an autonomously navigating robot to test and validate the detection of agitation in nursing home residents with dementia. Using the robot's autonomous ability to come to a resident's room in a nursing home as frequently and for as long a time as necessary, as well as its video capture of residents' facial expressions, Vigorous Mind will collect comprehensive raw data of facial expressions of ten nursing home residents with dementia known to be agitated during three days of simultaneous observations—twice per hour for thirteen hours per day, via both the robot and two human research assistants. Their facial expression analysis software will analyze the captured images and validate the detection of a signal that a resident is agitated as determined by the research assistants. The ultimate goal of this project is to use this information and the robot to deliver non-pharmacological interventions to reduce residents' agitation.

NEW CLINICAL/ENGINEERING SITE ON BAYVIEW CAMPUS:

The Johns Hopkins University Whiting School of Engineering and the School of Medicine are designing a new clinical/engineering site on the Bayview Campus, meant to enable the collaborative development of new technologies and uses of AI to improve the health and well-being of older adults. Suite 2100 within the Mason F. Lord East Tower, which spans a total area of approximately 10,528 square feet, will be renovated to facilitate this developmental effort. The Johns Hopkins Human Aging Project was founded in 2020 and has helped to provide the infrastructure that bridged disciplines and facilitated the collaborations that have developed between the Schools of Engineering and Medicine around important issues in aging, such as the Johns Hopkins Artificial Intelligence and Technology Collaboratory, the Gerotech Incubator Program, and the WSE-sponsored Aging Institute. The space will enable meaningful connections between engineers, gerontologists, geriatricians, and business ventures, allowing them to develop, test, implement, and disseminate novel AI technologies for improving older adults' health and well-being. This national center ensures accessibility for traditionally underserved older populations in urban and rural areas across the U.S.

MONTHLY WEBINARS

For October, **Alicia Arbaje** and **Mathias Unberath** presented **"Emerging Technologies for Healthy Aging."**

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

For November,
Suchi Saria and **Phillip Phan** will present **"Scaling Innovation Beyond the Lab to Maximize Impact."**
Register for their talk by scanning the QR code below.