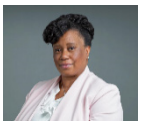
COHORT 1 AWARDEE PROFILES



Poster # 1

AutoTune Me LLC

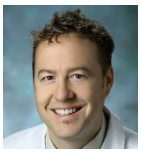
Project Title: A Music-Based Mobile App to Combat Neuropsychiatric Symptoms in People Living With ADRD

Principal Investigator: Kendra Ray, PhD, MPH, MT-BC

Brief Project Description: A mobile application capable of being implemented in a wearable device that can detect the pulse and movements of homebound patients with AD/ADRD and auto-play personalized songs as a therapeutic music intervention

Project Website: www.autotuneme.org

AITC Partner: PennAITech



Balance T LLC & Johns Hopkins University School of Medicine

Project Title: Balance T Device to Prevent Falls in Older Adults

Principal Investigators: Michael Schubert, PhD; Yuri Agrawal, MD

Brief Project Description: A balance training device that provides progressive, pre-set levels of balance challenge to the user to train and improve balance function

Project Website: https://www.hopkinsmedicine.org/som/

AITC Partner: JH AITC

Poster #2

Bestie Bot

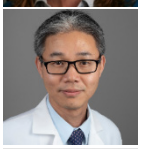
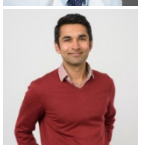
Project Title: RGBd+ Thermal Computer Vision Platform for Home Monitoring and Telehealth

Principal Investigator: Richard Everts

Brief Project Description: A home-based, AI-enabled camera system that combines stereo vision with thermal sensors to detect falls, send alerts, perform basic health diagnostics, and expand telehealth tools for flexibility measurements

Project Website: www.bestiebot.com

AITC Partner: PennAITech

Poster #3

Butlr, Hebrew SeniorLife, and University of Massachusetts Amherst

Project Title: Detecting Frailty in Home Environments Through Non-Invasive Whole Room Body Heat Sensing in Older Adults

Principal Investigators: Amanda Paluch, PhD; Dae Hyun Kim, MD, ScD; Rags Gupta

Brief Project Description: A contactless in-home frailty assessment tool that uses ceiling or wall-mounted sensors with body heat sensing technology and heat sensor-based algorithms to measure real-time movement of free-living people

Project Websites: www.butlr.io | www.epitechactivitylab.com | www.hebrewseniorlife.org

Poster #4

Care Daily

Project Title: AI Bots and Wearables for Dementia Caregivers to Improve Quality of Life

Principal Investigator: Gene Wang

Brief Project Description: AI microservices that learn by communicating with the users and monitoring data from Apple Watches to predict and alert on falls, detect wandering and provide GPS location, and monitor and offer recommendations to improve sleep quality

Project Website: www.caredaily.ai | http://www.nia.nih.gov/research/sbir/nia-small-business-showcase/care-daily

AITC Partner: JH AITC

Poster #5

Cogwear Inc.

Project Title: Physiological Detection and Monitoring of Alzheimer's Disease

Principal Investigator: David Yonce, MS, MBA

Brief Project Description: A technological soft-goods headband with an integrated wireless dry-sensor EEG that allows for in-home EEG signal processing via an algorithm to quantitatively detect and monitor brain processes associated with dementia

Project Website: www.cogweartech.com

AITC Partner: PennAITech

Poster #6

George Washington University and Crosswater Digital Media

Project Title: AI-Enabled Conversations to Measure Mental Status and Manage Psychotropic Medication Use

Principal Investigator: Lorens Helmchen, PhD

Brief Project Description: A web-based application using AI-based digital avatars in unscripted conversations to detect incipient memory loss, depression, and dementia, and to predict psychotropic medication needs

Project Website: linkedin.com/in/lorens-helmchen-8a9b575 | https://crosswater.net/

AITC Partner: PennAITech

Iris Technology Inc.

Project Title: AI-Assisted Fall Detection and Remote Monitoring for Seniors with ADRD

Principal Investigator: David Stout

Brief Project Description: AI-software based Visual Cognition Platform (VCP) that utilizes cameras and sensors to input visual data and deliver a Refined Data Output (RDO) to enable fall and elopement detection

Project Website: www.poweredbyiris.io

AITC Partner: PennAITech

Poster #7

Johns Hopkins School of Public Health – Center for Population Health IT

Project Title: AI-Augmented Analytics to Enable Patient Centered Palliative Care for Persons with ADRD

Principal Investigator: Chintan Pandya, PhD; Johnathan Weiner, PhD

Brief Project Description: An AI-augmented prediction model capable of identifying individuals with AD/ADRD who would benefit from palliative care via electronic health records, with an emphasis on ensuring ethical, equitable, and efficient population health principles

Project Website: https://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-population-health-information-technology/

AITC Partner: JH AITC

Poster #8

Johns Hopkins University – Krieger School of Arts and Sciences

Project Title: A Technology Platform to Monitor Cognitive Fluctuations and Lucidity in Dementia at Home

Principal Investigator: Kishore Kuchibhotla, PhD

Brief Project Description: A diagnostic mobile application that combines caregiver reports, psychometric testing, and wearable health sensor data to reliably identify predictors of moment-to-moment cognitive fluctuations and lucid intervals.

Project Website: https://krieger.jhu.edu/

AITC Partner: JH AITC

Poster #9

Johns Hopkins School of Medicine

Project Title: Individualized Risk Evaluation of Cognitive Decline in a Cognitively Normal Population

Principal Investigator: Kenichi Oishi, MD, PhD

Brief Project Description: A deep learning framework-developed, clinically applicable model that can estimate the risk of developing future cognitive impairment in a cognitively normal elderly population

Project Website: https://www.hopkinsmedicine.org/som

AITC Partner: JH AITC

Poster #10

Koda Health

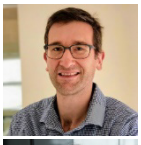
Project Title: Patient-Surrogate Alignment in Digital Advance Care Planning

Principal Investigator: Desh Mohan, MD; Katelin Cherry, MBE; Kathryn Bowles, PhD, RN

Brief Project Description: With the goal of increasing surrogate decision maker (SDM) engagement in advance care planning (ACP) and improving goal-concordant care, we are examining the dynamics of patient-SDM alignment and developing a machine learning algorithm to perform SDM persona identification among users of the Koda Health digital ACP platform.

Project Website: https://www.kodahealthcare.com/

AITC Partner: PennAITech


Massachusetts General Hospital and Sonde Health

Project Title: Testing a Vocal Biomarker Platform for Remote Detection and Monitoring of Cognitive Impairment in the Home Environment

Principal Investigators: Bradford Dickerson, MD; Erik Larsen, PhD; Bonnie Wong, PhD

Brief Project Description: Assessment of the feasibility of a smartphone app in detecting potential declines in cognitive functioning through voice analysis in a patient's home

Project Website: www.massgeneral.org

AITC Partner: MassAITC


Poster #11

McLean Hospital and University of Massachusetts Amherst

Project Title: Sensor-Guided Psychopharmacology in Alzheimer's Disease and Related Dementia

Principal Investigator: Ipsit Vahia, MD; Co-Investigator: Rachel Sava, PhD

Brief Project Description: An AI-guided approach to personalized psychopharmacologic management of behavioral and psychological symptoms in dementia using wearable sensors that generate real-time objective data to guide medication management and monitor effects and side-effects

Project Website: www.mcleanhospital.org | www.umass.edu

AITC Partner: MassAITC

Poster #12

Mentia

Project Title: AI Driven Avatar in DevaWorld, a Dementia Friendly Virtual World

Principal Investigator: Algis Leveckis, SM

Brief Project Description: A mobile application that currently provides therapies and activities of daily living engagement through a dementia-friendly interface and virtual host; continued development will construct a robust AI-based dialog management system to make the avatar more interactive and independent of input from caregivers

Project Website: https://www.mentia.me/

AITC Partner: JH AITC

Poster #13

MindMics

Project Title: Vascular Aging Using Infrasonic Hemodynography Embedded Into Everyday Earbuds

Principal Investigator: Anna Barnacka, PhD

Brief Project Description: A non-invasive monitoring technology, capable of integrating into standard earbuds, which utilizes algorithms informed by infrasonic hemodynography to determine aortic stiffness, a valuable metric for assessing overall health

Project Website: www.mindmics.com

AITC Partner: MassAITC

Northeastern University and Beth Israel Deaconess Medical Center

Project Title: Early Acute Illness Detection in Delirium and Dementia

Principal Investigators: Jane Saczynski, PhD; Edward Marcantonio, MD, SM

Brief Project Description: Identification of AI technologies capable of monitoring changes in health factors, including sleep quality and disturbances, heart rate, temperature, hydration, and activity levels, and providing early detection of acute illness in patients with dementia to enable aging in place

Project Website: www.bouve.northeastern.edu | www.bidmc.org

AITC Partner: MassAITC

Poster #14

Sequoia

Project Title: Enhancing Slow-Wave Sleep in Older Adults Using Acoustic Stimulation

Principal Investigators: Joshua Blair, MS; Youseph Yazdi, PhD

Brief Project Description: A wearable technological headband capable of measuring brain activity via EEG and using AI algorithms to time the therapeutic delivery of acoustic stimulation to enhance slow-wave sleep activity

AITC Partner: JH AITC

Poster #15

Sovrinti Inc.

PITCH FINALIST

Sovrinti independence at home

Project Title: Predicting Adverse Events in AD/ADRD Populations Using Sovrinti In-Home Sensing Data

Principal Investigator: John Fitch, MS

Brief Project Description: AI techniques using data from a background sensor system that combines device utilization and real-time location information to detect change in Activities of Daily Living behavior for seniors in home and assisted living environments in order to preemptively identify adverse effects in seniors with cognitive challenges.

Project Website: www.sovrinti.com

AITC Partner: JH AITC

Poster #16

University of California San Diego Jacobs School of Engineering

UC San Diego

Project Title: Smartphone Blood Pressure Monitoring for Healthy Aging

Principal Investigator: Edward Wang, PhD

Brief Project Description: Adaptation of smartphone cameras to accessible blood pressure monitoring devices through the development of an ultra-low-cost plastic clip and a mobile application with computational imaging algorithms

Project Website: https://digihealth.eng.ucsd.edu

AITC Partner: MassAITC

Poster #17

University of Colorado and Kaiser Permanente

KAISER PERMANENTE® Institute for Health Research

University of Colorado Anschutz Medical Campus

Project Title: Leveraging Patient Portals to Support Caregivers

Principal Investigator: Jennifer Portz, PhD

Brief Project Description: Development of an automated prediction model to identify caregivers of people living with dementia using natural language processing techniques and exploratory analysis

Project Website: https://medschool.cuanschutz.edu/general-internal-medicine | http://kpco-ihr.org/

AITC Partner: PennAITech

Poster #18

University of Michigan

Project Title: Conversational Care Technologies

Principal Investigator: Robin Brewer, PhD

Brief Project Description: This project focuses on designing and evaluating conversational technologies using in-home voice assistants to engage older adults and caregivers in discussions to inform care routines

Project Website: www.umich.edu | www.si.umich.edu

AITC Partner: PennAITech

Poster #19

University of Minnesota

Project Title: Designing Usable Technologies for Older Adults via Data-Driven Whole-Person User Personas

Principal Investigator: Robin Austin, PhD, DNP, DC, RN-BC

Brief Project Description: Development of older-adult personas through data-driven machine learning to understand what concerns of the aging population developing technology needs to address and who is accepting of AI and developing technologies

Project Website: https://nursing.umn.edu/

AITC Partner: PennAITech

University of Pennsylvania Frontotemporal Degeneration Center

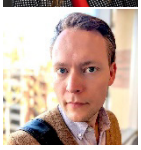
Project Title: Feasibility of Digital Monitoring to Detect Autonomic Markers of Empathy Loss in bvFTD

Principal Investigator: Emma Rhodes, PhD

Brief Project Description: This project aims to determine if a smartwatch can detect subtle abnormalities in autonomic arousal that underlie empathy deficits in patients with behavioral variant frontotemporal dementia.

Project Website: https://www.med.upenn.edu/ftd/

AITC Partner: PennAITech



Poster #20

University of Southern California

USC Viterbi School of Engineering

Project Title: An Accessible Machine Learning-Based ADRD Screening Tool for Families and Caregivers

Principal Investigator: Maja Matarić, PhD; Jesse Thomason, PhD

Brief Project Description: A mobile application that captures speech and gaze during three standard AD/ADRD screening queries and utilizes machine learning models to return recommendations on seeking medical care for early detection of dementia

Project Website: https://uscinteractionlab.web.app/project/ADRD

AITC Partner: PennAITech

Poster #21

Vigorous Mind Inc.

Vigorous Mind

Project Title: Robot With AI-Based Facial Expression Analysis to Detect Agitation in Persons with AD/ADRD

Principal Investigator: Yuval Malinsky, MBA

Brief Project Description: An autonomous navigating robot capable of AI-based facial expression analysis to detect agitation in nursing home residents with AD/ADRD and facilitate nonpharmacologic interventions

Project Website: https://www.vigorousmind.com/

AITC Partner: JH AITC

Virtual Apprentice LLC

PITCH FINALIST

VIRTUAL APPRENTICE™

Project Title: ReTreatVR (Using Virtual Reality to Mitigate Social Isolation and Provide Cognitive Stimulation)

Principal Investigator: Ellie Giles, EdD

Brief Project Description: A simulated 360 immersive environment to mitigate the effects of social isolation and minimal cognitive stimulation on older adults

Project Website: https://www.virtualapprentice.net/

AITC Partner: JH AITC

Poster #23

Visilant and Johns Hopkins University School of Medicine

PITCH FINALIST

Visilant

JOHNS HOPKINS SCHOOL of MEDICINE

Project Title: Visilant: Equitable Access to Eye Care Through Telemedicine and Artificial Intelligence

Principal Investigator: Kunal Parikh, PhD; Nakul Shekhawat, MD

Brief Project Description: A simple and inexpensive anterior segment imaging and telemedicine system to allow for remote eye screening by non-ophthalmologists for cataract screening, referral, and post-operative management for older adults

Project Website: https://www.hopkinsmedicine.org/som

AITC Partner: JH AITC

Poster #24

VivoSense Inc. and University of Massachusetts Amherst

VivoSense

UMassAmherst

Project Title: Developing Real-World Digital Biomarkers From Wearable Sensors in Patients With Alzheimer's Disease

Principal Investigators: Jennifer Blankenship, PhD; Michael Busa, PhD

Brief Project Description: Development and formal validation of algorithms to derive real-world measures of physical function in patients with AD/ADRD, focusing on metrics involved in real-world walking behaviors

Project Website: www.vivosense.com | www.umass.edu

AITC Partner: MassAITC

Poster #25

WAVi

PITCH FINALIST

WAVi

Project Title: Early Detection of Age-Related Cognitive Decline Using Machine Learning on EEG Data

Principal Investigators: Francesca Arese Lucini, PhD; Anqi Liu, PhD

Brief Project Description: Refinement of standard clinical EEG methods with machine learning for early detection of age-related cognitive decline

Project Website: https://wavimed.com/

AITC Partner: JH AITC

Poster #26

Weill Cornell Medicine

Project Title: Detecting Respiratory Distress in Patients with Advanced AD/ADRD Using Radio Sensors

Principal Investigator: Veerawat Phongtankuel, MD; Edwin Kan, PhD

Brief Project Description: A system of radio sensors based on near-field coherent sensing technology, here integrated into a bed sensor, which can capture cardiopulmonary waveforms in patients with advanced AD/ADRD and detect respiratory distress through an AI-based machine learning algorithm to alert caregivers

Project Website: https://weill.cornell.edu/

AITC Partner: PennAITech

Poster #27

WellSaid.ai LLC

PITCH FINALIST

Project Title: Leveraging Conversational AI to Detect Cognitive Impairment and Dementia in the Home

Principal Investigator: Randall Williams, MD

Brief Project Description: Machine learning models to accurately predict the cognitive status of older adults in their home using cognitive performance tests administered by Alexa and Google Assistant devices

Project Website: https://www.wellsaid.ai/

AITC Partner: JH AITC

Poster #28

Yale School of Medicine

Project Title: Advancing Detection of Dementia With the Emergency Department Dementia Algorithm (EDDA)

Principal Investigator: Ula Hwang, MD, MPH

Brief Project Description: A trained and validated machine learning (ML) algorithm to identify and classify older ED patients at risk for cognitive impairment, tested in real-time within the electronic health record (EHR) at multiple ED sites in a large healthcare institution

Project Website: https://medicine.yale.edu/

AITC Partner: JH AITC