Penn
University of Pennsylvania
Artificial Intelligence and Technology Collaboratory for Healthy Aging

Newsletter - December 2025 - Issue 14

ADVANCING INNOVATION FOR AGING

We are welcoming you to our 14th newsletter of the Penn Artificial Intelligence and Technology Collaboratory for Healthy Aging (PennAITech). PennAITech, funded by the National Institute on Aging, is committed to developing, evaluating, commercializing, and disseminating innovative technology and artificial intelligence systems to support older adults and those with Alzheimer's Disease and Related Dementias. Earlier this fall we announced our Year 5 awardees and are looking forward to working with this new cohort!

In this newsletter we highlight selected activities and resources within our Collaboratory. We feature PennAITech Innovation Fellow, Chaerin Lee. PennAITech is committed to mentoring and facilitating research and educational opportunities for our Innovation Fellows.We also learn more about Year 3 pilot project by our second awardee at the Beth Israel Deaconess Medical Center.

On November21, 2025, we had the opportunity to co-sponsor along with the Institute on Aging the Sylvan M. Cohen Annual Retreat entitled "Aging Reimagined: Innovation in the Era of AI." This was a day full of presentations by our awardees and other national speakers who showcased emerging opportunities for innovative solutions for healthy aging. We summarize some of these proceedings in this newsletter. The week before,we participated at the Gerontological Society of America (GSA) Annual Conference in Boston, MA where several of our PennAITech faculty, innovation fellows and awardees presented findings from their work.

Our PennAITech Video Library consists of educational modules focusing on ADRD, aging, AI tools and techniques, ethical implications of research and system design for aging and persons with dementia, and many other domains covered by our PennAITech experts.

Finally, our webinar series now in its fourth year was launched for this academic year 2025- 2026; as before, all recorded sessions are available on our YouTube channel. As always,we invite you to follow our social media platforms, including our LinkedIn profile and reach out with any questions or suggestions.

George Demiris

Table of Contents

funded by the National Institute on Aging Grant Nr. P30AG073105

Meet the Team

Principal Investigators

George Demiris, PhD, FACMI

Jason Karlawish, MD

Jason H. Moore, PhD, FACMI

Aging Focus Pilot Core

Kathryn H. Bowles PhD, FACMI, FAAN

Pamela Z. Cacchione, PhD, CRNP, FAAN

The overarching goal of the Aging Focus Pilot Core is to promote the advancement of science using technology and artificial intelligence to optimize quality of life and healthcare management for older adults living in their homes independently, as well as those receiving skilled home and community-based services. This Core solicits, selects, and manages pilot studies that develop or test AI and technology applications to detect risks, predict needs, address disparities, improve access to care, and support decision making for chronic illness management and safe aging in place.

AD/ADRD Focus Pilot Core

Lauren Massimo PhD, CRNP

Dawn Mechanic-Hamilton, PhD

The overarching goal of the Alzheimer's Disease and Alzheimer's Disease Related Dementias (AD/ADRD) Focus Pilot Core is to promote the advancement of science and engineering for predictive analytics, clinical decision support, or the care of adults with AD/ADRD. This Core solicits, reviews, and supports pilot studies that develop or advance the use of AI and technology for AD/ADRD predictive analytics, clinical decision support, or the care of adults with AD/ADRD.

Meet the Supporting Core Team

Networking and Mentoring Core

The overarching goal of the Networking and Mentoring Core is to support activities intended to facilitate networking and mentoring for the awardees of the Aging and AD pilot projects, all of whom are invested in Artificial Intelligence (AI) approaches and technology for aging adults, including those with Alzheimer's disease or related dementias (AD/ADRD).
This Core organizes and supports consortium networking activities and communicates with the broader scientific community.

Dokyoon Kim, PhD

Technology Identification and Training Core

Li Shen, PhD, FAIMBE

Ryan Urbanowicz, PhD

The overarching goal of the Technology Identification and Training Core is to use evidence from the literature, stakeholder and expert inputs to identify the technology needs of older Americans, as well as develop training activities for artificial intelligence (AI) and technology for scientists, engineers, clinicians, medical professionals, patients, policy makers, and investors.

Ethics and Policy Core

Emily Largent, JD, PhD, RN

Anna Wexler, PhD

The overarching goal of the Ethics and Policy Core is to shift the current ethics and policy paradigm by focusing on issues that arise at the intersection of aging and of AI methods and technologies for healthy aging. The Core will work in close collaboration with the other PennAITech Collaboratory Cores to address four key issues: (1) promoting the autonomy of older adults by balancing considerations of usefulness and intrusiveness; (2) protecting older adults in light of vulnerability due to cognitive and functional decline; (3) mitigating bias and addressing health disparities, such as racial disparities and urban-rural disparities; and (4) safeguarding the data privacy of older adults.

Clinical Translation and Validation Core

The goal of the Clinical Translation and Validation Core is to use the science and practice of geriatrics and gerontology to assess the feasibility and clinical utility of artificial intelligence (AI) methods for clinical decision support and of new technology for monitoring aging adults in their home. This Core provides an expert panel to assess the feasibility and clinical value of new artificial intelligence models for predictive analytics and clinical decision support and of new technologies designed to monitor aging adults and those with AD/ADRD. It provides a testbed for new technologies designed to monitor aging adults and those with AD/ADRD with an emphasis on underserved and rural populations.

Jason Karlawish, MD

Rebecca T. Brown, MD, MPH

Stakeholder Engagement Core

The overarching goal of the Stakeholder Engagement Core (SEC) is to ensure that technology solutions and AI approaches proposed and developed by the PennAITech Collaboratory are maximally adoptable by and accessible to their end users by soliciting ongoing stakeholder input and involving all key parties throughout all phases of the development and testing processes. The Core maintains a technology consortium (consisting of technology companies, startups, venture capital firms, and angel investors) that provide guidance and collaboration opportunities for pilot projects and a platform for potential dissemination and commercialization of innovative tools.

George Demiris, PhD, FACMI

Lisa M. Walke, MD, MSHA

Internal Advisory Board (IAB)

John Holmes, PhD, FACE, FACMI

The Internal Advisory Board (IAB) plays an important role in providing perspective and detailed advice and recommendations to the leadership team and the core directors. The IAB is chaired by Dr. John Holmes who is a Professor of Informatics and Epidemiology with significant experience in artificial intelligence and clinical decision support. We have assembled a team of local Penn experts representing three key areas of expertise. The first area, Biomedical Informatics and Artificial Intelligence, includes Drs. John Holmes (Professor of Informatics, AI expert), Ross Koppel (Professor of Sociology, EHR expert), Konrad Kording (Professor of Computer Science and Neuroscience, AI expert), Insup Lee (Professor of Computer Science and Engineering) and Danielle Mowery (Chief Research Information Officer). The second area, Geriatrics and Medicine, includes Drs. Mark Neuman (Anesthesiologist specializing in older adults), Matt Press (Medical Director of Primary Care), and Ramy Sedhom (Palliative Care, Geriatric Oncology, Penn Medicine Princeton Health). The third area, Home Care, includes Danielle Flynn (Director, Penn Medicine Home Health), Nancy Hodgson (Professor of Nursing), Bruce Kinosian (Division of Geriatrics), and Brian Litt (Director, Penn Center for Health, Devices, and Technology).

INNOVATION FELLOW SPOTLIGHT:

Chaerin Lee

Current PhD student
School of Nursing

Tell us about your research interests. Describe some of your research projects.

I am a first-year PhD student in Nursing at the University of Pennsylvania with a focus on improving transitional and long-term care for older adults. My research interests center on how subtle or "ignored" clinical data can be recognized and integrated into care to better preserve dignity and prevent adverse events. For example, I am interested in nonverbal signals such as facial expressions, gestures, and posture, which often reflect discomfort or decline but are overlooked in routine practice. I am also exploring how ambient sensor data and digital health tools can be embedded into nursing workflows to capture these signals in real time and support decision-making. I am presently engaged in research on transitional care interventions focused on sepsis survivorship and fall prevention, where I am learning how interdisciplinary collaboration and patient-centered design can shape more effective models of care. Moving forward, my goal is to develop technology-informed strategies that enable nurses to respond to overlooked signals, strengthen continuity of care, and improve the everyday experience of older adults in care settings.

How do you envision the role of AI and technologies in supporting aging?

I see AI and technology as tools that can expand the scope of nursing care for older adults. AI systems are uniquely capable of continuously analyzing complex data streams to detect early signs of decline that nurses might not be able to observe consistently, such as subtle variations in sleep patterns or mobility. Beyond clinical monitoring, I am especially interested in the potential of AI agents to ease documentation, flag safety concerns, and provide real-time decision support. These functions could free nurses to spend more time on direct, person-centered care at the bedside. At the same time, AI can also enhance the social dimensions of care: conversational agents, for example, may reduce loneliness and facilitate communication for individuals with speech or cognitive limitations. In my view, technology should not replace nursing presence but extend its reach, reinforcing both the physical and emotional aspects of aging care. When guided by principles of equity, privacy, and cultural sensitivity, AI can serve as a partner that strengthens autonomy and connection.

What do you see as some of the greater opportunities and challenges for the future?

Looking ahead, one of the greatest opportunities lies in shaping technologies that genuinely respond to the needs of nurses and older adults. When thoughtfully integrated, AI has the potential to reduce preventable hospitalizations, ease workforce strain, and make care more proactive by highlighting risks before they escalate. These advances could also create space for nurses to focus on therapeutic relationships and the dignity of patients, which are central to holistic practice. However, realizing this vision requires addressing significant challenges. If tools are designed without input from frontline nurses, they risk creating additional workload or introducing data that is not clinically meaningful. Unequal access to technology could also widen disparities, particularly in long-term care environments with limited resources. In addition, privacy concerns and ethical questions about surveillance must be carefully managed to sustain trust. The challenge for the future is not only technological development but also ensuring alignment with nursing values, so that innovation enhances human connection rather than diminishes it.

Penn University of Pennsylvania | Artificial Intelligence and Technology Collaboratory for Healthy Aging

INTRODUCING OUR 2025-2026 YR5 PILOT AWARDEES

Zhe He
Developing a Multi-Agent AI System for Explaining Lab Results to Older Adults

Florida State University

Kathryn Pollak
CounterforceAI: AI-Powered Health Insurance Appeals Generator

Duke University

Marie Brodsky
WISE Connect AI: Personalized Local Support for Aging in Place

WISE Cities, Inc.

Ravi Karkar
Conversational AI Agents to Support Mental Wellbeing of AD/ADRD Caregivers

University of Massachusetts Amherst

Angela Bradbury
GRACE: A Generative AI Clinical Chatbot to Support APOE Testing

University of Pennsylvania

Nipun Chopra
StepAhead: Breaking Free from Freezing of Gait with Augmented Reality

DexTech, Inc.

Tina Sadarangani
AI-ge of Nutrition – AI Nutrition Support for Persons with Dementia in Adult Day Centers

New York University

Karla Washington
A Synthetic Data Approach to Catalyzing Innovation in Dementia Caregiver Support

Washington University in St. Louis

Seyed Reza Mahmoodi
AI-Integrated Nanowell Biosensors for Multimodal Detection of NPD Biomarkers

University of Denver

Hong Qin
Knowledge-Augmented Genomics Transformers for Mechanistic Links to AD Dementia

Old Dominion University Research Foundation

funded by the National Institute on Aging Grant Nr. P30AG073105

Penn
University of Pennsylvania

Artificial Intelligence and Technology Collaboratory for Healthy Aging

CLICK HERE TO VIEW OUR 2025-2026 YR4 PILOT AWARDEES LOOK BOOK

Min Ji Kwak

Detection of Adverse Drug Event Using NLP Among Older Adults with Heart Failure

University of Texas Health Science Center at Houston

Katherine Kim

A Novel Digital Twin for Chronic Care Coordination and Healthy Aging

Health Tequity LLC

Nili Solomonov

Scalable subtyping for personalized assessment of late-life social disconnection

Weill Cornell Medicine

Nancy Hodgson

Using AI to predict depression & burden AD/ADRD caregiving conversations

University of Pennsylvania

Bin Huang

AI-Driven Chatbot to Navigate Cognitive Care Plan for Persons with AD/ADRD

BrainCheck

Kyra O'Brien

WATCH (Warning Assessment and Alerting Tool for Cognitive Health)

University of Pennsylvania

Emily Moin

Determinants of access to and outcomes following specialized palliative care for patients with ADRD

University of Pennsylvania

Rory Boyle

Understanding aging and ADRD disparities using a representative epigenetic clock

University of Pennsylvania

Vijaya Kolachalama

AI-based tool for mixed dementias

Boston University

Mehmet Kurt

An explainable deep learning framework for brain age prediction in AD

University of Washington

funded by the National Institute on Aging Grant Nr. P30AG073105

Penn
University of Pennsylvania
Artificial Intelligence and Technology Collaboratory for Healthy Aging

CLICK HERE TO VIEW OUR 2024-2025 PILOT AWARDEES LOOK BOOK

Xina Quan
Improved algorithms for wearable, passive, noninvasive BP monitoring for seniors

PyrAmes

Soheyla Amirian
AI-powered Web Application to Analyze Knee Joint Space for Aging Population

Pace University

Rui Zhang
Task-Oriented Multimodal Conversational AI for Assisting Seniors with Daily Tasks

Penn State University

Chun Lim
Mobile technology as a cognitive biomarker of Alzheimer's disease

Beth Israel Deaconess Medical Center (BIDMC)

Mohammad H. Mahoor
Building Deep Digital Twins for Prediction of AD/ADR/MCI in Older Adults

DreamFace Technologies, LLC

Ab Brody
Aliviado Dementia Care Machine Learning Algorithm Development for Caregiving

New York University

Nicholas Kalaitzandonakes
AI/ML Analyses of Mobility Changes Among Elderly Using Continuous Gait Data

Foresite Healthcare

Daniel Press
Developing a Home Cognitive Vital Sign to Detect Cognitive Changes AD

Beth Israel Deaconess Medical Center (BIDMC)

Trent M. Guess
Motor function assessment for mild cognitive impairment, frailty, and fall risk

University of Missouri

Hualou Liang
Detecting Cognitive Impairment using Large Language Models from Speech

Drexel University

Jindong Tan
MUSICARE-VR: Music Intervention with Virtual Reality for Alzheimer's Care

University of Tennessee, Knoxville

funded by the National Institute on Aging Grant Nr. P30AG073105

PILOT IN THE SPOTLIGHT:

Developing a Home Cognitive Vital Sign to Detect Cognitive Changes AD

PI: Daniel Press, MD
Associate Professor of Neurology
Harvard Medical School
Chief, Division of Cognitive Neurology Beth Israel Deaconess Medical Center

John Torous, MD
Director, Digital Psychiatry
Division Beth Israel Deaconess Medical Center
Instructor in Psychiatry
Harvard Medical School

TELL US ABOUT YOUR PROJECT AND WHAT YOU HAVE DONE THIS YEAR.

Patients with Mild Cognitive Impairment (MCI) and Mild Alzheimer's Disease (AD) can have daily fluctuations in their cognitive abilities. These changes can potentially indicate a serious health condition such as delirium or ARIA, a potentially life-threatening side effect of amyloid removal therapies. Unfortunately, no clinical tools for measuring cognitive function are currently available to frequently collect data on and monitor cognition at home. We have designed a simple spatial working memory test, the D-Cog, that can be performed regularly at home in under 2 minutes and have integrated the D-Cog into a publicly available platform (mindLAMP) that allows for remote monitoring. For 6 months, 15 MCI/AD patients and 15 cognitively normal controls are asked to complete the D-Cog daily, and we will analyze participant compliance, day-to-day score variation, and more gradual changes over months that might indicate disease progression. So far, we have enrolled 13 MCI/AD participants and 5 control participants; we expect to complete enrollment in the next few months, and complete data collection 6 months following that.

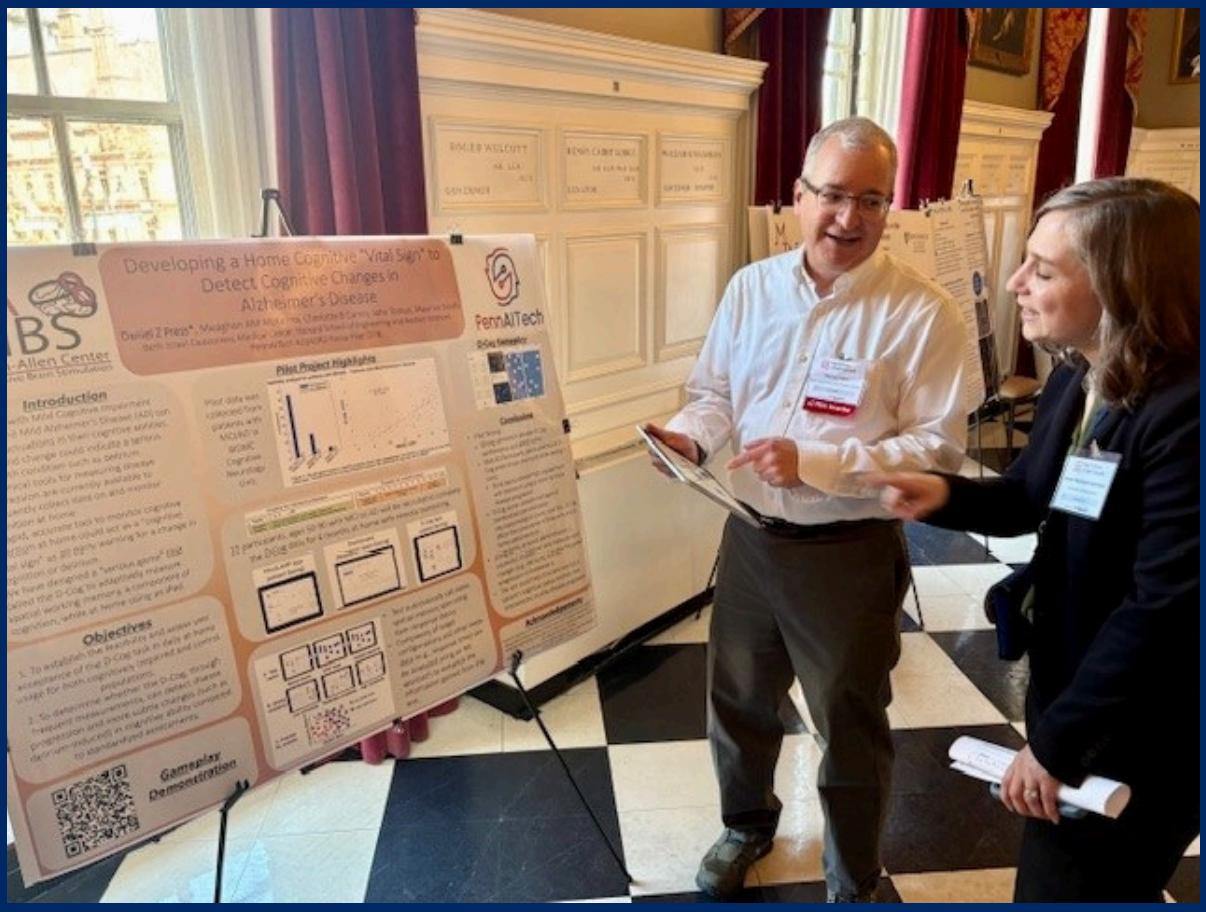
WHAT ARE THE LONG TERM GOALS FOR YOUR RESEARCH?

The primary goal of the task is to enhance care and monitoring of patients with MCI or AD through regular home assessments of cognition to detect acute and chronic changes. Daily measurements, even of a relatively crude cognitive measure, can be extremely informative in measuring disease progression, and detecting untoward events such as ARIA. Following validation of the task against other standardized cognitive tests, we hope to demonstrate the advantages of using a simple digital test compared to lengthier, pencil and paper tests that are performed infrequently in evaluating people for cognitive issues. We plan on making the D-Cog test freely available to the public on the mindLAMP app, for self-monitoring of cognitive status. In the future, we hope to integrate this into clinical systems to allow physicians to monitor their patient's cognitive status while at home.

HOW DO YOU ENVISION THE ROLE OF AI AND TECHNOLOGIES IN SUPPORTING AGING?

The major goal of using Machine Learning and AI analyses in this study is to dramatically enhance the information gathered by the task through a supervised learning approach, using the rich data set that the D-Cog test collects. The advantage of technology-based cognitive testing is the ability to collect data other than just scores (e.g. response time, complexity of task), as well as the possibility for patients to self-administer these tests. With the assistance of AI and Machine Learning, a significant amount of information is newly available to inform our understanding of performance on cognitive testing. In addition, AI can be used to automatically detect results raising concern for delirium, ARIA, or other conditions and notify clinicians or family members of these cognitive changes which might otherwise be missed. Public access to cognitive testing technology improves accessibility to healthcare and allows for a more data-driven approach to the detection of cognitive impairments.

Beth Israel Lahey Health
Beth Israel Deaconess Medical Center



Daniel Press presents the study poster at the a2 National Symposium in Boston, MA.

PennAITech co-sponsored The Institute on Aging's Sylvan M. Cohen Annual Research Retreat and Poster Session, "Aging Reimagined: Innovation in the Era of AI" at the University of Pennsylvania on November 21, 2025. Bringing together over 100 in-person and 50 virtual participants.

Read the full recap in the IOA's blog post here: https://www.med.upenn.edu/aging/nov2025retreat.html

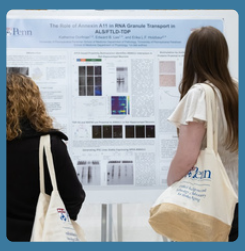
Includes links to presenter bios and video presentations plus a listing of all poster presenters - several from our pilot awardees and Innovation Fellows.

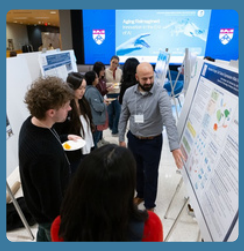
Thank you to Jason Kavulich, Pennsylvania Secretary of Aging for Opening Remarks

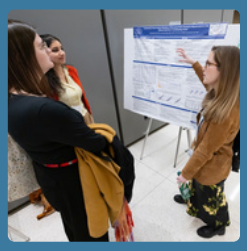
Thank you to keynote speaker, Amanda Lazar for setting the tone of the retreat and challenging the participants and presenters to continue “Redrawing the Boundaries of Innovation: Making AI Work in Real Life.”

Throughout the retreat we heard from PennAITech Pilot Awardees from our first four cohorts. They had opportunities to present their work and next steps.

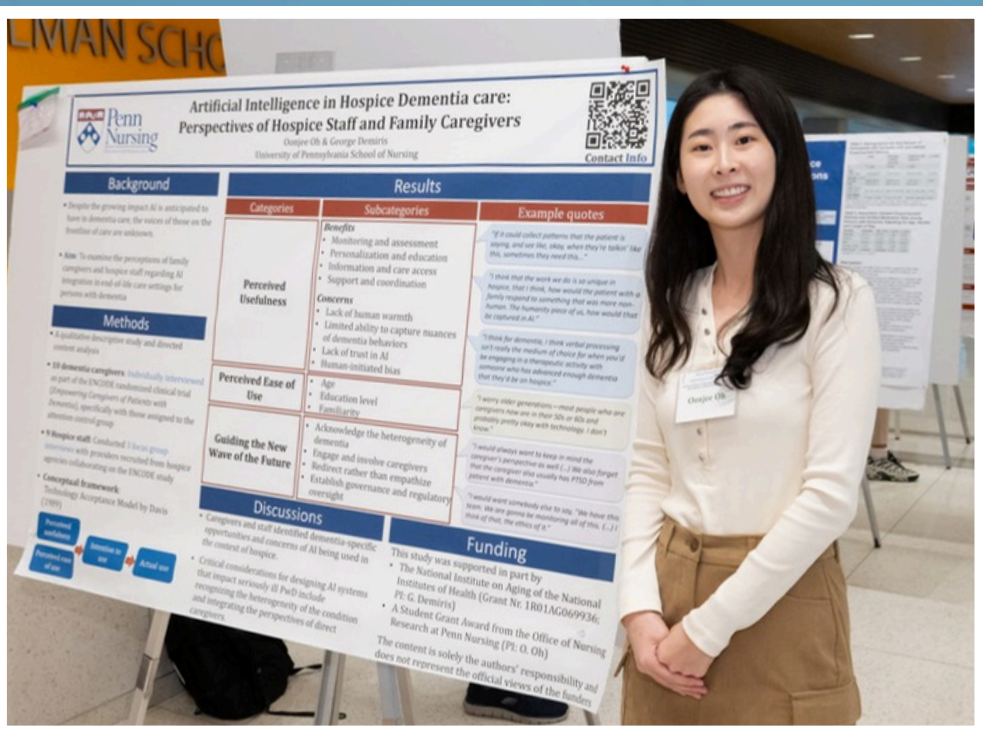
Additionally, there were 30 posters available for view throughout the event.







Congratulations to PennAITech Innovation Fellow and University of Pennsylvania School of Nursing PhD Student Oonjee Oh for receiving the first prize for her poster "Artificial Intelligence in Hospice Dementia Care: Perspectives of Hospice Staff and Family Caregivers"
in the "Design and Implement AI Solutions" Category at the retreat!



NEWS FROM THE FIELD

WHAT'S HAPPENING IN AI?

Global push for safe and equitable health AI

The World Health Organization and the Republic of Korea co-hosted AIRIS 2025 in Incheon, bringing together regulators, industry, and researchers to align on "safe, effective, ethical, and equitable" AI in health across the medical product lifecycle. The meeting emphasized inclusive, accountable governance and shared regulatory frameworks.
Read more:
https://www.who.int/news/item/24-10-2025-countries--regulators-and-partners-urge-a-collaborative-approach-to-advance-safe-and-equitable-ai-in-health

PAHO releases practical guide to AI prompt design for public health

The Pan American Health Organization published a new guide on how to design AI prompts that generate reliable, culturally appropriate public-health content. The resource targets agencies using generative AI to draft alerts, educational materials, and plain-language summaries, stressing that good prompt design is essential for trustworthy outputs.
Read more:
https://www.paho.org/en/news/20-10-2025-paho-publishes-guide-designing-artificial-intelligence-instructions-public-health

AMA launches Center for Digital Health and AI

The American Medical Association announced a Center for Digital Health and AI to ensure physicians shape the development, regulation, and implementation of AI tools. The Center will focus on policy and regulatory leadership, clinical workflow integration, education, and cross-sector collaboration, highlighting both growing enthusiasm and ongoing concerns among clinicians.
Read more:
https://www.ama-assn.org/press-center/ama-press-releases/ama-launches-center-digital-health-and-ai

Health systems double down on AI to redesign care delivery

A national survey by Chartis, summarized in Healthcare Dive, found that 9 in 10 health-system leaders are prioritizing digital and AI tools to improve access, forecast demand, and manage capacity—viewing AI as central to more proactive care models in an increasingly unaffordable system. Read more: https://www.healthcaredive.com/news/health-system-leaders-prioritize-ai-healthcare-challenges-chartis/804539/

SELECTED PUBLICATIONS

WORK BY OUR TEAM

01.

Recognizing Structural and Social Determinants of Health in the Diagnosis and Care of Dementia.
Stites SD, Midgett S, Patel N, Halberstadter K, Schumann R, Streitz ML, Shi Y, Morris JC, Flatt J, Glover CM, **Mechanic-Hamilton D**. Dementia (London). 2025 Nov 24:14713012251397182. doi: 10.1177/14713012251397182. Online ahead of print. PMID: 41284335

02.

From prompt engineering to agent engineering: expanding the AI toolbox with autonomous agentic AI collaborators for biomedical discovery.
Moore JH, Tatonetti NP. BioData Min. 2025 Nov 13;18(1):78. doi: 10.1186/s13040-025-00502-4. PMID: 41233899

03.

Diurnal variation of wearable device-based heart rate variability in the Chronic Renal Insufficiency Cohort study.
Skarke C, Yang W, Sha D, Lahens NF, Isakova T, Unruh M, Deo R, Carmona-Powell E, **Holmes JH**, Ficarra E, Chen J, He J, Rincon-Choles H, Shah V, Hsu CY, Anderson AH, Lash JP, Rahman M; CRIC Study Investigators. NPJ Digit Med. 2025 Nov 13;8(1):653. doi: 10.1038/s41746-025-02010-5. PMID: 41233490

04.

Plasma Phosphorylated Tau 217 to Identify Preclinical Alzheimer Disease.
Salvadó G, Janelidze S, Bali D, Dolado AO, Therriault J, Brum WS, Pichet Binette A, Stomrud E, Mattsson-Carlgren N, Palmqvist S, Coomans EM, Teunissen CE, van der Flier WM, Rahmouni N, Benzinger TLS, Gispert JD, Blennow K, Doré V, Feizpour A, Rowe CC, Alcolea D, Fortea J, Villeneuve S, Johnson SC, Rosa-Neto P, Petersen RC, Jack CR Jr, Schindler SE, Suárez-Calvet M, Ossenkoppele R, Hansson O; **ADNI, ALFA, and PREVENT-AD Study Groups**. JAMA Neurol. 2025 Nov 1;82(11):1122-1134. doi: 10.1001/jamaneurol.2025.3217. PMID: 40952756

05.

Communicating a Diagnosis of Mild Cognitive Impairment or Dementia.
O'Brien K, **Largent EA**, **Karlawish J**. JAMA. 2025 Sep 16;334(11):1014-1015. doi: 10.1001/jama.2025.13006. PMID: 40736397

06.

Germline genetic scores associated with cancer gene expression and immune responses across multiple cancer types.
Cha S, Shim I, Jung SH, Kim B, Kim S, Park MS, Cho H, Nam Y, Park WY, **Kim D**, Won HH. Commun Med (Lond). 2025 Jul 1;5(1):265. doi: 10.1038/s43856-025-00958-9. PMID: 40593119

PUBLICATIONS

07.

Caregiver-reported barriers and facilitators to hospice enrollment for persons with dementia: A systematic review of qualitative evidence.
Oh O, Ulrich CM, **Massimo L**, **Demiris G**. Palliat Med. 2025 Oct;39(9):948-964. doi: 10.1177/02692163251353013. Epub 2025 Jul 26. PMID: 41044929

08.

A one-shot, lossless algorithm for cross-cohort learning in mixed-outcomes analysis.
Li R, Benz L, Duan R, Denny JC, Hakonarson H, Mosley JD, Smoller JW, Wei WQ, Lumley T, Ritchie MD, **Moore JH**, Chen Y. Patterns (N Y). 2025 Jul 30;6(9):101321. doi: 10.1016/j.patter.2025.101321. eCollection 2025 Sep 12. PMID: 41040961

09.

Development and Validation of an App Rating System for Caregiver Financial Management Apps.
Cho E, Naylor MD, **Demiris G**, Winnay SS, Cibildak A. Sage Open Aging. 2025 Sep 24;11:30495334251379916. doi: 10.1177/30495334251379916. eCollection 2025 Jan-Dec. PMID: 41020060

10.

Temporal Modeling of Amyloid and Tau Trajectories in Alzheimer's Disease using PET and Plasma Biomarkers.
Brown CA, Cousins KAQ, Korecka M, McGrew E, Chen-Plotkin A, Detre JA, McMillan CT, Lee EB, Das SR, **Mechanic-Hamilton D**, Yushkevich PA, Nasrallah IM, Shaw LM; Alzheimer's Disease Neuroimaging Initiative; Wolk DA. medRxiv [Preprint]. 2025 Sep 7:2025.09.04.25334935. doi: 10.1101/2025.09.04.25334935. PMID: 40950425

11.

Voice for All: Evaluating the Accuracy and Equity of Automatic Speech Recognition Systems in Transcribing Patient Communications in Home Healthcare.
Xu Z, Vergez S, Esmaeili E, Zolnour A, Briggs KA, Scroggins JK, Hosseini Ebrahimabad SF, Noble JM, Topaz M, Bakken S, **Bowles KH**, Spens I, Onorato N, Sridharan S, McDonald MV, Zolnoori M. Stud Health Technol Inform. 2025 Aug 7;329:1904-1906. doi: 10.3233/SHTI251273. PMID: 40776290

12.

Evaluation of self-mediated alternatives for risk testing education and return of results (eSMARTER) study: A randomized study of methods for returning APOE and pTau-217 results.
Erickson CM, Langlois CM, Wood EM, Mim R, Howe S, Ofidis D, Egleston BL, Harkins K, **Largent EA**, Roberts JS, Reiman EM, Denkinger M, Ashton NJ, **Karlawish J**, Bradbury AR, Langbaum JB. Alzheimers Dement (N Y). 2025 Nov 16;11(4):e70177. doi: 10.1002/trc2.70177. eCollection 2025 Oct-Dec. PMID: 41250770

13.

Measurement of functional status in primary care: the role of the interprofessional team.
Zamora-Rogoski KA, **Brown RT**, Rizzo A, Nicosia FM. J Interprof Care. 2025 Jul 28:1-9. doi: 10.1080/13561820.2025.2537124. Online ahead of print. PMID: 40726029

14.

Racial/ethnic differences in neuropsychological test performance in frontotemporal degeneration.
Matyi MA, Rhodes E, Emrani S, Jin HA, Irwin DJ, McMillan CT, **Massimo L**. Alzheimers Dement (Amst). 2025 Oct 22;17(4):e70190. doi: 10.1002/dad2.70190. eCollection 2025 Oct-Dec. PMID: 41140436

PUBLICATIONS

15.

Characterizing the Research Participant Recruitment Funnel for Alzheimer's Secondary Prevention Trials: Results from A National Survey of U.S. Adults.
Largent EA, Grill JD, **Karlawish J**, Bleakley A. Alzheimers Dement Behav Socioecon Aging. 2025 Sep;1(3):10.1002/bsa3.70035. doi: 10.1002/bsa3.70035. Epub 2025 Aug 28. PMID: 40937435

16.

A Pan-Organ Vision-Language Model for Generalizable 3D CT Representations.
Beeche C, Kim J, Tavolinejad H, Zhao B, Sharma R, Duda J, Gee J, Dako F, Verma A, Morse C, Hou B, **Shen L**, Sagreiya H, Davatzikos C, Damrauer S, Ritchie MD, Rader D, Long Q, Chen T, Kahn CE Jr, Chirinos J, Witschey WR; Penn Medicine Biobank. medRxiv [Preprint]. 2025 Jul 3:2025.07.03.25330654. doi: 10.1101/2025.07.03.25330654. PMID: 40630577

17.

MentalChat16K: A Benchmark Dataset for Conversational Mental Health Assistance.
Xu J, Wei T, Hou B, Orzechowski P, Yang S, Jin R, Paulbeck R, Wagenaar J, **Demiris G**, **Shen L**. KDD. 2025 Aug;2025:5367-5378. doi: 10.1145/3711896.3737393. Epub 2025 Aug 3. PMID: 41098434

18.

Application of a data mining approach to predict cardiovascular disease risk in the Republic of Korea: The National Health Insurance Service-National Health Screening Cohort.
Park S, **Bowles KH**, Ratcliffe SJ, Ulrich CM. Heart Lung. 2025 Nov-Dec;74:111-120. doi: 10.1016/j.hrtlng.2025.07.003. Epub 2025 Jul 9. PMID: 40639058

19.

Development and validation of the mobility in middle-age questionnaire.
Hayek R, Karvonen-Gutierrez CA, Bean JF, Guralnik JM, Covinsky K, Hoffman JR, Azmon M, Yogev-Seligmann G, Krautner G, Saad O, Nudelman Y, **Brown RT**, Springer S. J Gerontol A Biol Sci Med Sci. 2025 Nov 6;80(12):glaf205. doi: 10.1093/gerona/glaf205. PMID: 41017642

20.

Impact of learning APOE genotype on cognitively unimpaired adults: a pre-screening cohort study of the Alzheimer's Prevention Initiative Generation Study 1.
Langbaum JB, Bradbury AR, Egleston BL, McCarty Wood E, Langlois CM, **Largent EA**, Harkins K, Erickson CM, Stites SD, Oyen E, Riviere ME, Liu F, Graf A, Kim SYH, Grill JD, Reiman EM, Tariot PN, Roberts JS, **Karlawish J**. Lancet Healthy Longev. 2025 Nov 27:100778. doi: 10.1016/j.lanhl.2025.100778. Online ahead of print. PMID: 41319675

21.

Envisioning Home Health as a Critical Component of Learning Health Systems to Improve Evidence-Based Care in Heart Failure.
Sterling MR, Kern LM, McDonald MV, Tobin JN, Arbaje AI, Cené CW, Jones CD, Dicpinigaitis M, Shum M, **Bowles KH**. JACC Adv. 2025 Jul 8:101980. doi: 10.1016/j.jacadv.2025.101980. Online ahead of print. PMID: 40704937

22.

Apoe genotype knowledge and its impact on cognitive beliefs and performance.
Barber SJ, Menon M, Shoemaker KJ, Mather M, Langbaum JB, **Karlawish J**. Neuropsychol Dev Cogn B Aging Neuropsychol Cogn. 2025 Nov 18:1-24. doi: 10.1080/13825585.2025.2587702. Online ahead of print. PMID: 41252556

Join us monthly on second Thursdays!

Penn
University of Pennsylvania
Artificial Intelligence and Technology Collaboratory for Healthy Aging

Talking to Machines: How LLMs Are Changing Mental Health Support in the Age of AI

Briana Vecchione, PhD

Technical Researcher
AI on the Ground Team
Data & Society Research Institute

THURSDAY, DECEMBER 11
12-1PM EST

Click HERE for Full Series Webinar Information

PennAITech

funded by the National Institute on Aging Grant Nr. P30AG073105

Webinars will continue in 2026!

Penn
University of Pennsylvania
Artificial Intelligence and Technology Collaboratory for Healthy Aging

The Age of Scientific Wellness: Translating AI-Driven Insights Into Human Healthspan

Nathan D. Price, PhD

Professor and Co-Director
Center for Human Healthspan
Buck Institute for Research on Aging

THURSDAY, JANUARY 8
12-1PM EST

Click HERE for Full Series Webinar Information

PennAITech

funded by the National Institute on Aging Grant Nr. P30AG073105

Penn
University of Pennsylvania

Artificial Intelligence and Technology Collaboratory for Healthy Aging

WEBINAR SERIES 2025-2026

The purpose of this webinar series is to foster a dialogue exploring clinical, ethical and technological opportunities and challenges associated with the use of technology to promote aging, and to introduce different perspectives at the intersection of informatics and gerontology.

September 11, 2025
Pamela E. Toto
University of Pittsburgh

October 9, 2025
Danielle Lee Mowery
University of Pennsylvania

November 13, 2025
Sudeshna Sil Kar
Emory University

December 11, 2025
Briana Vecchione
Data & Society Research Institute

January 8, 2026
Nathan D. Price
Buck Institute for Research on Aging

February 12, 2026
Zhi Huang
University of Pennsylvania

March 12, 2026
Michael Cary
Duke University

April 9, 2026
Mia Tackney
University of Cambridge

May 14, 2026
Paul J. Barr
The Dartmouth Institute for Health Policy & Clinical Practice

ZOOM WEBINAR

MONTHLY

THURSDAY 12-1PM EST

Register for Webinar Series HERE

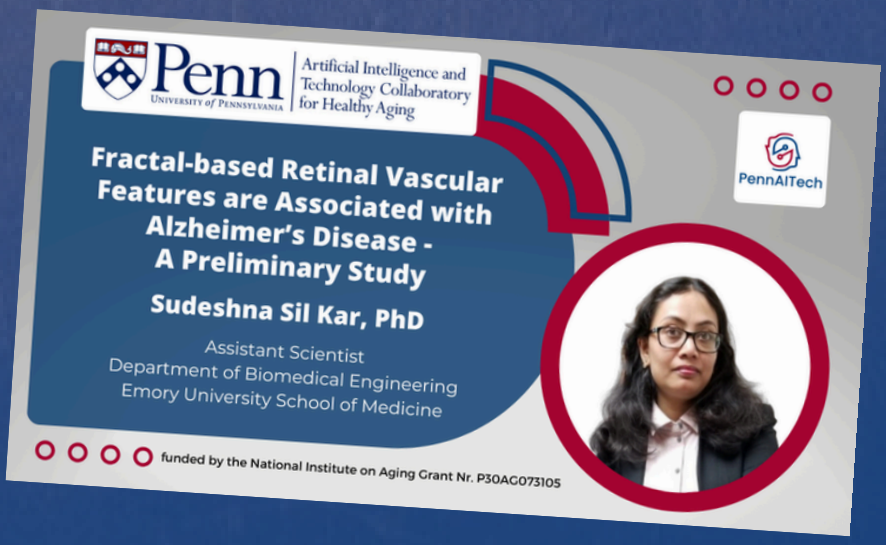
June 11, 2026
Barbara Barbosa Neves
The University of Sydney

www.pennaitech.org

funded by the National Institute on Aging Grant Nr. P30AG073105

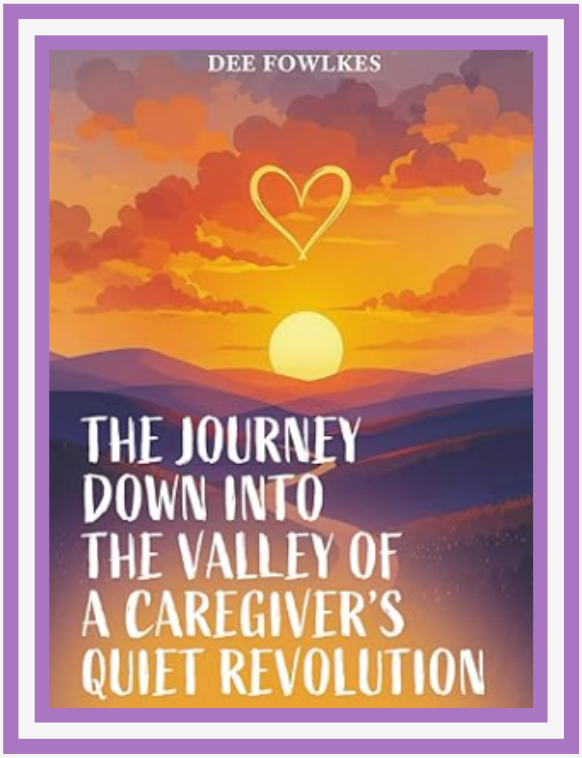
Tune in online second Thursdays at 12PM ET for presentations and Q&A with speakers.

Recordings available on our YouTube channel.



YouTube

Checkout Stakeholder Dee Fowlkes' New Book!



✨ What You'll Discover Inside:

- ✅ Step-by-step guidance to understand the emotional and practical journey ahead
- 🧠 Self-assessment tools to evaluate your personal readiness
- 🙏 Weekly devotionals grounded in Christianity, Judaism, and Islam
- ✍️ Reflective journal prompts to help you process thoughts, fears, and decisions
- ❤️ Encouragement to advocate for your loved one without losing yourself
- 🧘‍♀️ Space to pause, reflect, and grow—on your timeline

Click here for Amazon link!

Dee Fowlkes is a stakeholder of the Johns Hopkins AITC and has been a family caregiver for over 25 years to her parents and grandparents. Her experience includes being a 24-hour caregiver as well as attended 4 years of intense education about caregiving, dementia, and Alzheimer's Disease. She understands how the different stages affect loved ones and family caregivers at different stages. Dee Fowlkes is an advocate, she spoke before several Maryland hearings concerning the mandatory education of healthcare professionals. Dee is a Certified Johns Hopkins Medical Lay Health Educator and created her own TIZ I Health & Wellness Program for ages 50 and up.

Connect with Dee on LinkedIn:
https://www.linkedin.com/in/tiz-i-enterprises-travel-health-wellness-b9b506134/

Penn
University of Pennsylvania

Artificial Intelligence and Technology Collaboratory for Healthy Aging

Technology solutions may prove to be useful in helping people age independently and stay safe at the residence of their choice, manage their health care needs and communicate with family members and health care providers. The *Penn Artificial Intelligence and Technology Collaboratory for Healthy Aging* (**PennAITech**) is a program that fosters innovation to support aging. **We are looking for family caregivers, namely, adults who are taking care of a loved one, relative or friend who is over the age of 65 years, to participate in our stakeholder engagement group and give us feedback about many different ideas and projects.** No previous experience with technology is necessary. We will provide remuneration at $50 per hour, and anticipate participation for up to 10 hours per year based on interest and availability.

For more information, please contact:

Email: pennaitech@nursing.upenn.edu

Phone: 215-746-8361

We are thrilled to announce the launch of the CITI training: Essentials of Responsible AI program, which is now available via UPenn and sponsored by PennAITech. The training is designed to help individuals explore the core aspects of establishing and operationalizing a responsible approach to AI development and use. This course is relevant for all AITC awardees and others who want to learn more about Responsible AI, Responsible AI Principles, and the AI regulatory landscape.

Have you completed training?

Essentials of Responsible AI | CITI Program

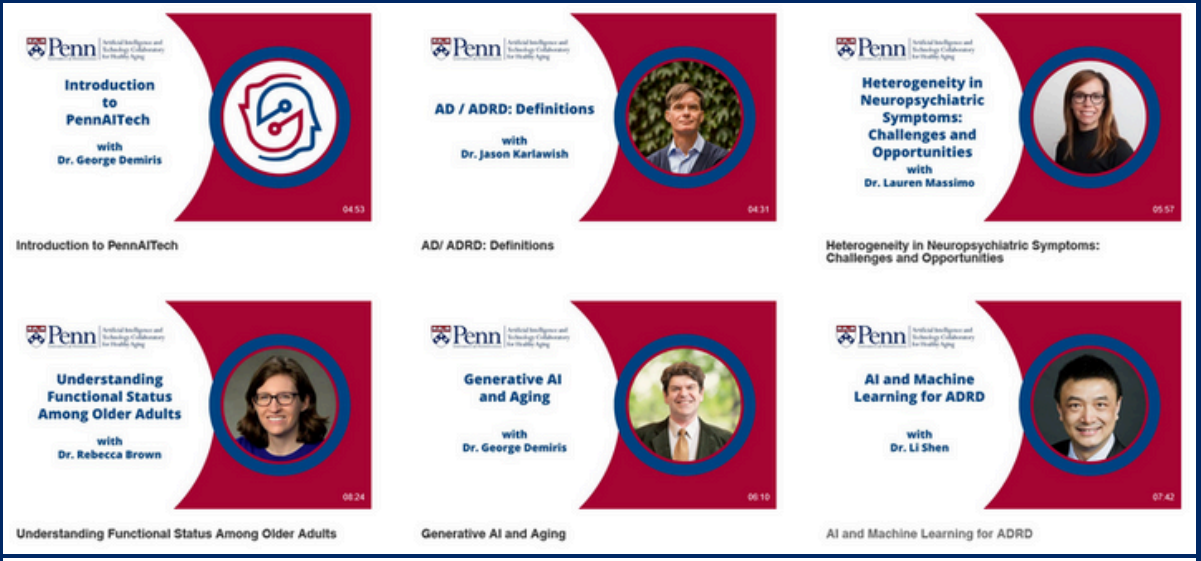
Essentials of Responsible AI Covers the principles, governance approaches, practices, and tools for responsible artificial intelligence (AI) development and use. View this course at CITI Program.

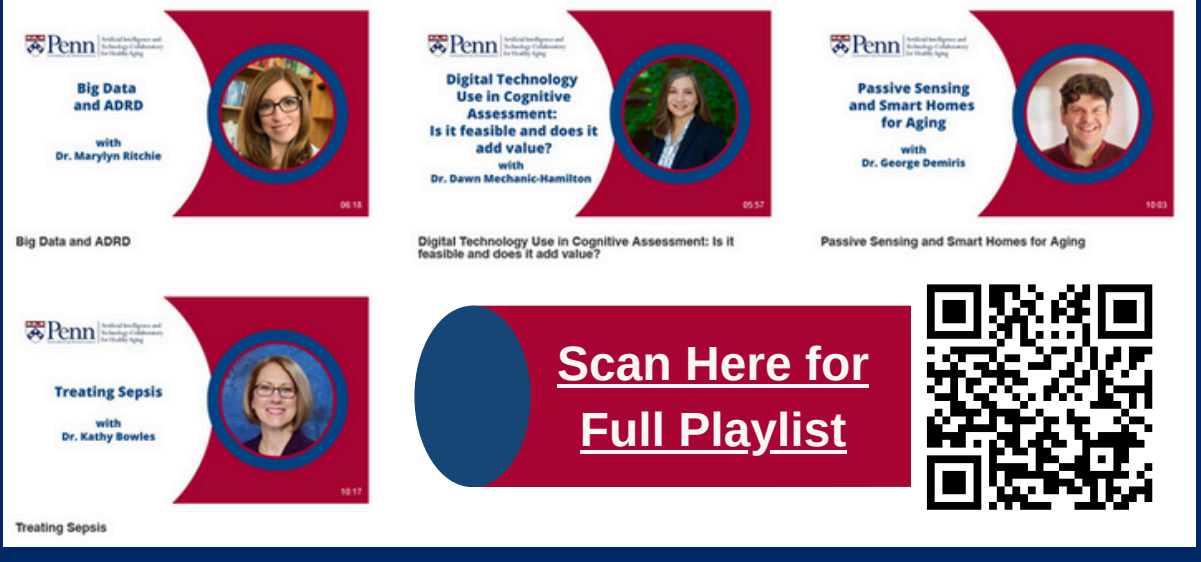
about.citiprogram.org

https://about.citiprogram.org/course/essentials-of-responsible-ai/

Please explore our PennAITech Video Library consisting of educational videos covering a broad range of topics from an introduction to Alzheimer's Disease and Related Dementias to Basics of Artificial Intelligence, Machine Learning and Natural Language Processing. The library addresses clinical, technical and ethical implications of designing and deploying AI and other technologies for aging and persons with dementia and their families. The topics include:

PennAITech Video Library





Scan Here for Full Playlist

Penn Nursing
University of Pennsylvania

Perelman School of Medicine
University of Pennsylvania

Connect with PennAITech online:

https://www.pennaitech.org/news

https://www.linkedin.com/company/pennaitech/

https://www.youtube.com/@pennaitech

https://bsky.app/profile/pennaitech.bsky.social

https://www.facebook.com/pennaitech

https://twitter.com/pennaitech

funded by the National Institute on Aging Grant Nr. P30AG073105