Winner's announcement

Information included in this section may be shared publicly with challenge results. If you are on a team, please complete the first two questions for each member of the team.

1. Please provide your preferred information for use in announcing the winners of the competition:
    a. Name (first and last name or first name and last initial): Stephanie Ruth Young
    b. Hometown: Saint Paul, Minnesota
    c. A recent picture of yourself or digital avatar (feel free to attach separately):
    d. Social handle or URL (optional):
2. Who are you (mini-bio) and what do you do professionally?
    a. I am an assistant professor in the Department of Medical Social Sciences at Northwestern University's Feinberg School of Medicine. My training background is in neuropsychology, and I completed my clinical internship at Dell Children's Hospital/The University of Texas at Austin Dell Medical School and my clinical fellowship at Children's Hospital Colorado/The University of Colorado School of Medicine. I am currently studying how app-based assessments can monitor cognitive trajectories and improve the early detection of cognitive decline throughout the lifespan.
3. What motivated you to compete in this challenge?
    a. The motivation to compete in this challenge stems from the urgent global health crisis of pathological cognitive decline in older adulthood, which is distinct from normal cognitive aging. Early detection of cognitive impairment is crucial for identifying potentially reversible causes, managing symptoms and comorbidities, determining appropriate clinical care, and assisting families in planning for the future. By participating in this challenge, we aim to offer a data set that may be able to leverage innovative machine learning approaches to advance the early prediction and diagnosis of Alzheimer's Disease and Related Dementias (AD/ADRD).
4. High level summary of your dataset: the data source, target, predictors, sample size and use for early, inclusive prediction of AD/ADRD.
    a. Our dataset will be sourced from the validation of two novel cognitive screening systems, MyCog and MyCog Mobile, designed to overcome the aforementioned barriers to early detection of AD/ADRD in primary care settings. Our sample will include healthy participants (N=200) and participants with an existing diagnosis related to AD/ADRD (N=100). The primary outcome of our dataset is a clinical diagnosis of cognitive impairment. Predictors include score data from gold-standard neuropsychological measures, novel cognitive screeners (MyCog and MyCog Mobile), demographic data, and clinical diagnoses. The demographic composition of the sample is diverse and includes groups disproportionately impacted by AD/ADRD (e.g., low education groups) and spans older adulthood. If

predictive validation studies are successful, MyCog Mobile could potentially be used in younger populations to detect dementia earlier in larger samples from the comfort of participants' own homes.

5. What are two or three unique strengths of this dataset or type of data for early, inclusive prediction of AD/ADRD?
    a. **Innovative Screening Tools:** The dataset includes data from MyCog and MyCog Mobile, innovative cognitive screening systems that are self-administered and can be integrated with a patient's Electronic Health Record (EHR). These tools can save clinics time, reduce human errors, and increase the accessibility of cognitive screenings by allowing patients to complete assessments remotely via a smartphone.
    b. **Diverse and Inclusive Sampling:** Our dataset intentionally recruits a diverse sample, stratified by demographic groups and over-recruiting participants disproportionately impacted by AD/ADRD. This approach ensures that the findings are generalizable to the U.S. population and that disparities in AD/ADRD detection and treatment can be more accurately studied and addressed.
    c. **Comprehensive and Shareable Data:** By including data from both traditional neuropsychological measures and novel screeners, the dataset provides a rich source of information for machine learning analyses. The data's openness and shareability facilitate advanced research, enabling the development of robust predictive models and the potential for collaboration across multiple research sites and studies.
6. Did you use any tools or resources for developing your submission (e.g., to find a dataset, or explore the contents of a public dataset)?
    a. Yes, we used two novel app-based screening systems to collect data, MyCog Mobile and MyCog.
7. Were there any data types or sources that you explored but didn't fit for this challenge?
    a. No
8. How would you improve or enrich this dataset if you had access to a big research team and an unlimited budget?
    a. This data would be strengthened by a larger sample of clinical and healthy participants, blood biomarker data, and MRI findings.