process after accounting for attitudes toward AI as well as socioeconomic status. The findings raise a concern about older workers' constraints in job mobility as well as early retirement due to technological change in the hiring process.

**DETECTING ADRD CAREGIVERS' INFORMATION WANTS IN SOCIAL MEDIA: A MACHINE LEARNING–AIDED APPROACH**

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ADRD caregivers increasingly use social media to meet their health information wants (HIW). Machine learning (ML) tools may help understand caregivers' HIW as expressed via social media. This pilot study explored a collaborative, iterative process between domain experts and ML tools to identify ADRD caregivers' HIW from social media data. The HIW-ADRD framework was adapted from an existing HIW framework. Through multiple rounds of iteration between the experts and the ML tools, the framework was expanded to include 11 types of health information. Each type included corresponding keywords developed through a hybrid approach that included keywords from both the theoretical constructs (top-down) and caregivers' posts (bottom-up). These keywords were then used to enhance the ML tools' ability to code 106 recent posts extracted from an ADRD social media group in March 2020. When compared with expert coding results, ML tools accurately predicted 56% of HIW. Further work is underway.

**CLASSIFICATION OF AGGRESSIVE BEHAVIORS BASED ON SEMG FEATURE EXTRACTION AND MACHINE LEARNING ALGORITHM**

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New surface electromyography (sEMG) feature extraction approach combined with Empirical Mode Decomposition (EMD) and Dispersion Entropy (DisEn) is proposed for classifying aggressive and normal behaviors from sEMG data. In this study, we used the sEMG physical action dataset from the UC Irvine Machine Learning repository. The raw sEMG was decomposed with EMD to obtain a set of Intrinsic Mode Functions (IMF). The IMF, which includes the most discriminant feature for each action, was selected based on the analysis by Hibert Transform (HT) in the time-frequency domain. Next, the DisEn of the selected IMF was calculated as a corresponding feature. Finally, the DisEn value was tested using five different classifiers, such as LDA, Quadratic DA, k-NN, SVM, and Extreme Learning Machine (ELM) for the classification task. Among these ML algorithms, we achieved classification accuracy, sensitivity, and specificity with ELM as 98.44%, 100%, and 96.72%, respectively.

**AN INTRODUCTION TO THE ADHERENCE PROMOTION WITH PERSON-CENTERED TECHNOLOGY PROJECT**

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The massive potential of cognitive training and longitudinal cognitive assessment to detect and prevent age-related cognitive decline and dementia will not be realized unless individuals are willing and able to engage with these protocols for an extended period of time. Unfortunately, similar to other health behaviors, adherence to home-based assessment and training is frequently poor. Addressing the gap between potential and realized benefits is an urgent goal as the population ages. APPT investigates these and related issues within samples of older adults with and without cognitive impairment. Ultimately, two randomized controlled trials will test whether an adaptive, tailored, and integrated technology-based adherence support system can boost adherence, with the ultimate goal being the early detection and treatment of age-related cognitive decline and dementia. Initial algorithm development and application to existing datasets will be presented that will inform the design of a smart reminder system that will later be assessed.

**EARLY DIFFERENCES IN COGNITION ASSOCIATED WITH FAMILIAL LONGEVITY AND APOE GENOTYPE USING DIGITAL TECHNOLOGY**

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Merging digital technologies with neuropsychological testing allows for collection of novel metrics that may reveal early, subtle differences in cognitive functioning. We examined whether digital pen metrics from the Clock Drawing Test (CDT) differentiate healthy agers (i.e., individuals with familial longevity) from spouses and individuals by APOE genotype. We used generalized estimating equations adjusted for sociodemographics, familial longevity, and APOE genotype. Among 1974 participants with correct clocks (mean age 71±10 years), familial longevity was associated with better cognitive processing (i.e., shorter latencies/thinking time before cognitively demanding components) whereas the e4 allele was associated with smaller clock diameter and longer latencies. The e2 allele was negatively associated with total time and latencies. Therefore, digital metrics captured differences in cognitive processing among individuals with correct clocks and thus may be more sensitive than traditional scores. Additionally, familial longevity may confer