CLSA Approved Project

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Project Title
Using artificial intelligence to predict cardiac age and its impact on health

Project Summary
As we age, our functional abilities decline, but the rate of decline varies among individuals. Our chronological age (CA) does not tell the full story of our health. Consequently, aging is not just about the passing of time; it is influenced by genetics, our environment and lifestyle choices. Researchers are interested in physiological age (PA), which measures the accumulation of cellular damage over time. When our PA is higher than our CA, it can be a sign of negative health outcomes, including physical and cognitive decline, and early mortality. We are measuring PA with data from a non-invasive medical test: the electrocardiogram (ECG). An ECG measures the electrical activity of the heart over time. Using artificial intelligence, we aim to enhance the diagnostic capabilities of the ECG, making it a better predictor of functional decline (FD). Identifying FD before it is evident helps reduce disability rates later in life.

Keywords
ECG, physiological age, artificial intelligence, longevity, aging