Problem Statement – Social connectivity and communication

Summary
Social connectivity and communication are essential factors that drive wellbeing. However, for a variety of reasons, individuals can find themselves socially isolated and lonely. AI has the potential to offer novel communication approaches that enable individuals to connect with one another despite the physical or practical barriers they may face.

Background
Spending time with friends, taking part in activities and having a sense of community are among some of the most important predictors of health, having a positive impact on both physical and mental health.

Evidence shows that having strong social ties can:

Dramatically lower rates of disease and premature death. A meta-analysis of 148 studies focusing on the relationship between social isolation (varyingly measured in terms of social networks and the extent to which social supports were available) and mortality, it was found that having more or more supportive social relationships was related to a decreased mortality risk. A further study found those who lacked supportive relationships are at increased risk of all-cause morbidity and mortality with outcomes comparable to smoking, obesity, lack of exercise and high blood pressure.

Improve our long-term happiness. People’s happiness correlates to the happiness of others with whom they are connected – and people who are surrounded by happy people are more likely to be happy in the future.

Decrease stress during major life transitions. Higher levels of happiness and optimism were associated with lower levels of stress and greater increases in perceived social support during life transitions.

Support recovery. One study showed that higher scores on the Recovery Assessment Scale were related to both social support as well as engagement in activities.

Loneliness and social isolation can affect anyone. A recent study found that 22 percent of adults in the United States report feeling lonely or socially isolated. However, some people are more vulnerable to being socially isolated than others. Elderly people are particularly at risk of social isolation and loneliness. Evidence suggests that up to 50% of those aged over 60 are at risk of social isolation and approximately one-third of older people will experience some degree of loneliness later in life. Isolation
in the elderly occurs due to a complex set of circumstances and factors that exist at the individual, social network, community, and societal levels. Social factors such as social networks, social supports, social engagement and integration, income, mobility, societal factors, and the physical environment. Events, including changes in or loss of a social role, physical and mental health, social network, resources, and location of residence can also trigger factors that can lead a person closer to or away from social isolation.

People with physical disabilities face barriers in daily life that can make them more chronically lonely than non-disabled people. Living with a disability can pose challenges to building social connections, due to impaired mobility and access to appropriate social care. It is estimated that 560,000 individuals with physical disabilities never leave their homes.

Social isolation also disproportionally affects people with intellectual and developmental disabilities. Research suggests that an individual with a developmental disability tends to have fewer friends and fewer opportunities for socializing than the general population. Almost 1 in 3 young people with a developmental disability spend less than 1 hour outside their home on a typical Saturday, and 85% of young developmentally disabled adults from the 18-34 year old age group feel lonely. Additionally, children with a developmental disability usually have smaller social networks due to barriers such as lack of accessible social activities, lack of support and a lack of accessible information.

There is a compelling need to address the issue of social isolation and communication through novel technology solutions that can address the needs of these individuals. For people of all ages who suffer from a feeling of profound loneliness, emerging virtual and artificially intelligent technologies may provide an avenue to alleviate some of the difficulties that come with feeling isolated.

**Key Example**
Norwegian startup No Isolation is an example of a company that has taken an AI approach to managing social isolation. One of the company’s flagship products is a telepresence robot named AV1, which is helping children and young adults suffering from long-term illness to carry on with their social lives and studies. Since launching in August 2016, it has supported over 650 children and adolescents in Norway, Sweden, Denmark, Finland, the Netherlands and the UK.

“V1 is the eyes, ears and voice of students who, for various reasons, cannot attend school. Making use of a microphone, loudspeaker, one-way camera and two motors, AV1 allows students who may be at home or in hospital be ‘in’ the classroom along with their friends. The small lightweight avatar securely live-streams what it is seeing and hearing to an iPad or smartphone held by the child, who can then speak through AV1 and control it via the connected device.”

**References**