

Context and objective:

Many city-dwelling elderly people can be greatly affected after a minor change in their living or health conditions. Mild Cognitive Impairment (MCI), early dementia and frailty are among the most common risks with deep consequences on elderly and caregivers' quality of life. Through the new wave of Information and Communication Technologies (ICT), Internet of Things (IoT) and smart city system, it is now possible to help individuals capture and make use of their personal data in a way that will help them maintain their independence for longer. The IPAL research team and its partners aim at creating an innovative service based on:

- ICT-enhanced early detection of risk related to frailty
- ICT-enhanced interventions that can help the elderly population to improve their daily life and also promote positive behaviour change

Through real-life pilot sites in Singapore in collaboration with local stakeholders, the IPAL research team explores how data on individual behaviours captured through indoor and outdoor sensors could be used for the observation and detection of the following parameters:

- Activity of Daily Living (ADL): nutrition, hygiene, sleep activity
- Mobility: physical activity, going-out frequency and going-out length
- Cognition: forgetfulness, early signs of cognitive decline
- Socialization: senior activity centre visits, activities attended, other places of interests visits

Our focus is to use sensing technologies installed in the elderly's environment (indoor to outdoor) to monitor and detect their activities of daily living. Sensor data that is collected will then be analysed to identify relevant behaviours of individuals, and to detect behavioural changes that can be correlated with risks of MCI/frailty. The appropriate ICT based interventions (e.g. data visualization and alerts to caregivers) will then be applied to mitigate these risks. Additionally, psychosocial data related to the elderly's quality of life, social activity participation and activities of daily living will also be collected via interviews and activity logs to evaluate the outcomes of our technology intervention.

IPAL research team is looking for a social scientist to advance its research on ambient assisted living and user experience. The objective of the internship is: "Studying how assistive ambient technology can be designed, implemented and introduced to most benefit elders to enhance quality of life."

Description:

The work to be made involves the intern to be in direct contact with elders, family caregivers, and professionals who serve elders, in a partnership to define the problems and possible technological solutions for empowerment of elders and their caregivers. We propose a social science subject with the following description:

- Map out the local context of elderly care in Singapore (activities, community, social) and identify potential additional partners
- Help defining the technology approach with the direct users (elders) and stakeholders (relatives, friends, neighbours, professionals...)
- Help defining the scenario modes for intervention services (define uses-cases for assistive technologies)
- Engage in current projects and on-going deployments (such as Senior Activity Centre) to go further on the different needs identification & service specification
- Help establishing and conducting qualitative & quantitative surveys to create and refine a general user profile (specifications for elderly people)
- Analyse and present qualitative results of surveys related to user experience, quality of life, social interactions

Keywords:

Ambient Assisted Living, Social Sciences, Public Health, Behavioural Science, Digital Health, User experience, Dementia Assistance, Real life deployment, Dynamic and adaptable systems, Context aware services

Applicant profile

- Master level in Social sciences/Behavioural sciences/ Psychology background
- Awareness and Interest in Digital Health and ICT enhanced personalized services
- Experience and Interest in UX related projects
- Proactivity and independence
- Excellent English skills, Chinese (mandarin or dialects) is a plus
- Excellent writing, presentation and analytical skills

Duration:

The internships have a 6 months duration and the starting date is from Mid February 2017 onwards. The internship is based in Singapore. (Note that the Student Visa application may take time and then delay the starting date).

Gratification: 1500 SGD/month