

# Are Robots the Future of Elder Care?

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<https://github.com/mxochicale/3mt>

If we are lucky enough, we will live to an average of 80 years. But, have you ever wondered what it would be like turning 80, 90 or maybe 100 years old? Now, imagine as we age, we will be gradually losing all of our charming human senses such as sight, hearing, taste, smell, and touch. In short, both our cognitive and motor skills will diminish as we age.

Now think about the people who will be with you until the last day of your life. Will they be with you at all and most importantly will they take care of you?

And how about the global view of people who are aging. According to the 2017 revision of the world population prospects[1], people age 60 years or over are expected to be more than double by 2050 and to be more than triple by 2100[2].

Well, you don't have to worry too much in the coming years, because this is where caregiver robots and **MY RESEARCH** come in.

In my PhD, I have created a novel analysis and interpretation of nonlinear time series which helps to understand and measure human movement variability. I have also conducted experiments in the context of human robot-interaction where people follow upper arm movements performed by a robot and analysed the changes of facial expressions over time[5].

Applications of my research can be in areas such as rehabilitation, sport science, entertainment or education, but let me just give you two examples \* In the last five years, robots like Palro, a small humanoid robot, can play games and dance with the elder and therefore keep their minds active. \* Another one is Romeo, a personal humanoid robot, which has the power to read and respond to human emotions[0] and encourage the elder to do social activities, healthy eating and exercise[4].

That is the future that I am working on. A future where humanoid robots can automatically enhance and monitor physical activities of the elderly.

Perhaps my parents, back in Mexico, are not going to directly benefit from these technological advances but I do believe that your children and future generations of people will be assisted by caregiver robots, therefore making the elderly more independent, happier and healthier!

## Key Dates

- training at BrH (26april2018)
- training at UoB (19april2018)
- drop-in at GK-N224 (26april)

- submit-slide (01-15h00m)
- heat-practice (02-12h00m)
- heat (03may2018)
- filming (15may2018)
- bham-final (16may2018)

## Acknowledgements

I would like to acknowledge to the following people who helped me to improve the use of English and body language for the 3 Minutes Thesis competition. To Georgina Hardy and Eren Bilgen for the feedback on how to use the body language and our voice to create pause in the training and drop in classes. To my English teachers at the brasshouse and to the one to one tutorials at University of Birmingham who helped me to improve the use of English. Last but not least to Isabella Fritz who gave acute feedback in order to refine the script.

## References

- [0] Mark Hay, 24 June 2015
- [1] The 2017 Revision of the World Population Prospects, United Nations
- [2] Ageing, United Nation Blog
- [3] Cynthia Matuszek, 28 August 2017
- [4] Louise Aronson, 19 July 2014
- [5] Miguel P Xochicale's publications