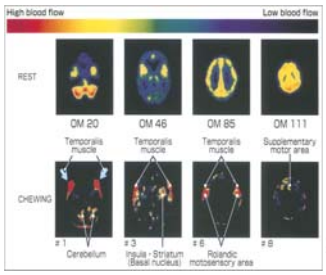
Success Stories in Research Careers

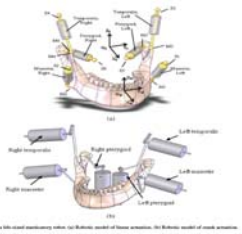
------- From a “chewing robot” user to a PhD student

Gauss Lee(CAI LI), PhD student , Skövde University

Past experience:

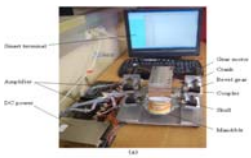
Chewing is a very important function of the mouth, especially when you are living in a beautiful place called "food paradise". I was working on mastication behaviors there and implementing it on a chewing robot used for rehabilitation of TMJ (Temporomandibular joint and muscle disorders) and food assessment. What is more, inspired by neurophysiology and neuroscience, these two applications are very meaningful practices in both mastication research and humanoid robotics, functionally grounding human chewing behaviors.

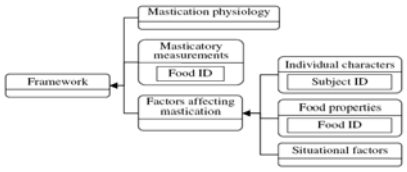




PET images in a 21-year-old student are shown at 13 mm intervals during rest after gum chewing and the musculoskeleton of the Mastication

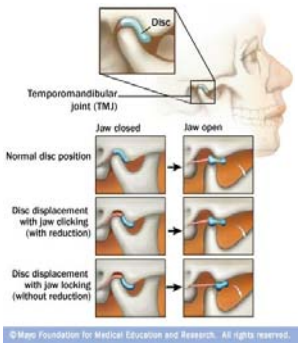
Product:

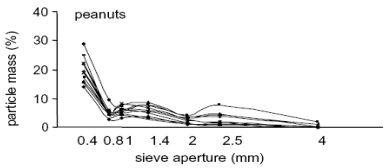




Top class objects for the mastication knowledge framework.

Applications: TMJ problems rehabilitation and Food evaluation

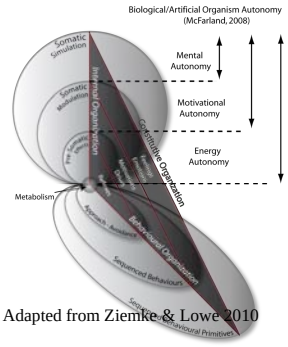




Now:

Piled Higher & Deeper
Life (or the lack thereof) in Academia

Affective modulation of emotion embodiment in robotics:
Findings in the social psychology literatures on attitudes, social perception, and emotion demonstrate that social information processing involves embodiment, where embodiment refers both to actual bodily states and to simulations of experience in the brain’s modality-specific systems for perception, action, and introspection.(Paula M. Niedenthal et al, 2005)



Adapted from Ziemke & Lowe 2010

Autonomy implies freedom from outside control. There are three main types of freedom relevant to robots(Ziemke&Lowe).

Much is being done in an attempt to transfer emotional mechanisms from reverse-engineered biology into social robots. There are two basic approaches: the imitative display of emotion —e.g. to intend more human-like robots— and the provision of architectures with intrinsic emotion —in the hope of enhancing behavioral aspects(Ricardo Sanz et al).

Future applications or products(expected):

Humanoid robot can communicate with people better with the emotions in order to serve or help people in more efficient way.

Robots can sense love ,showing “love” to people as a real intelligent robot. Robots can have the same feelings with human.

Self-introduction

After gaining the Master degree in Hong Kong University of Science and Technology (HKUST), I went to New Zealand for months, working and studying there. It is a heaven-like world for researchers, in particular when you are sitting around Mission bay and reading books in the fresh sea wind. The "neuronal spikes flow "entrained by the chattering and singing of huge seagulls can give you more inspirations. Kiwifruit is a symbol of this land, a wonderful and natural "food paradise". That is why food technology is developing aggressively here. Now, I am studying as a PhD student in Skovde University, trying to unravel the mysteries in embodiment of emotion and its applications in robotics.

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