

Project title:

Trustworthy knowledge representation in Clinical Practices

Supervisor(s) Name and E-Mail:

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Project Description:

The ramping crisis reported in The Age (4 September 2023) costs the government about \$105 million in paramedic wages per annum. In addition, research has shown an increase in the risk of death due to ramping. Pre-hospital notification from ambulance services to the receiving hospital enables hospitals to prepare resources for incoming patients. Our research focuses on streamlining this process through knowledge representation to optimise the workflow and investigate knowledge acquisition and representation in emergency services. A component of this research includes investigating speech recognition to acquire accurate and relevant information in a noisy environment such as in an Ambulance or Emergency Bay.

Current speech recognition models are capable of removing noise; however, are limited in (i) distinguishing multiple voices, (ii) filtering for important information, and (iii) handling temporal change of information for knowledge representation to support healthcare professionals' reason.

This research project arose as a result of close collaboration between Alfred Health focusing on context in Australian Medical Doctrine.

Preferred special skills and expertise:

- ✓ Msc or Bsc(Hons) in Engineering (Software, Biomedical, Electronics), data science, AI.
- ✓ Industry or Research Experience in the same field with strong programming skills
- ✓ Strong Communication and problem-solving skills.
- ✓ Self-motivation and curiosity