KAIST

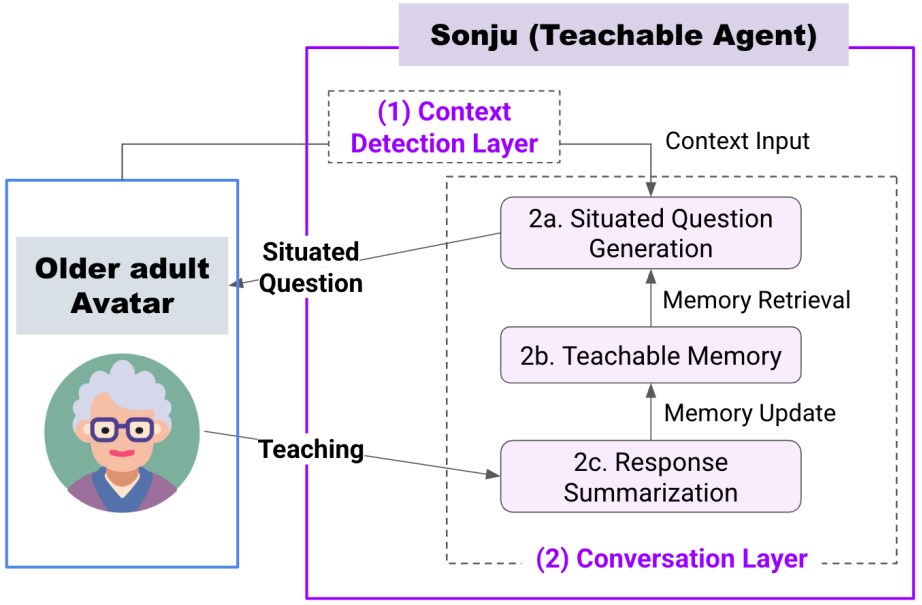
Sonju: A Context-Aware Teachable Agent for Eliciting Older Adults' Situated Knowledge

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1 Introduction

- **Sonju: A context-aware teachable agent** for **supporting older adults' generativity** through teaching
- Initial feasibility evaluation using **ExtraSensory dataset-based context detection** and **older-adult avatars with different self-disclosure levels**

2 System Design



3 Result

(1) Personalized Context Detection

Experimental setup
- 1 ExtraSensory dataset participant, 8 activity classes
- 3,548 train / 889 test
- 80/20 class-wise split

89.0% overall accuracy on a held-out test set of 889 sensing instances

(2) Conversation Evaluation

Evaluated Sonju with three **self-disclosure avatar**

Evaluation Dimension	Metric	Reserved (Self-Disclosure Level)	Moderate (Self-Disclosure Level)	Talkative (Self-Disclosure Level)
Conversation Quality	Naturalness	96.5%	95.7%	95.7%
	Personalization	100%	100%	91.7%
Generated QA Quality	Specific	80%	100%	80%
	Inferred	70%	100%	100%
Knowledge Extraction Quality	Correctness	100%	100%	100%
	Coverage	85.3%	93.8%	94.2%
	Completeness	94.9%	97.5%	99.4%

Key takeaways
- **Comparable conversational quality** across profiles
- **Higher knowledge coverage** with greater self-disclosure

4 Limitation & Future Work

- Limitation: Initial feasibility evaluation using an existing dataset and LLM-based older-adult avatars
- Future work: Real-world context detection with older adults and evaluation of Sonju's effects on generativity