



Date: 23 - 24 November 2023 | Venue: W Singapore - Sentosa Cove, 21 Ocean Way, S098374

Abstract Submission Form

The AI Health Summit 2023 will host poster competitions and stand to win generous prizes! All shortlisted presenters will have 5 minutes each to present their posters on stage.

Timeline:

- 7 Oct 2023: Closing date for abstract submission
- 30 Oct 2023: Notify of selected abstract
- 1 Nov - 15 Nov 2023: Submission of posters

Abstract Online Submission Site:

<https://form.gov.sg/64a3cbdc9693f400117e275c>

Naming Your Abstract File:

Full name of presenting author_Country_Short abstract title

Each abstract should only represent **ONE** theme. Author(s) may submit multiple entries. The committee reserves the right to disqualify unsuitable entries. This submission form for abstracts will be used in shortlisting for poster submissions.

Abstract theme (Please select only **ONE**):

☐	AI in medical imaging	☐	AI in drug discovery, bioinformatics, and precision medicine
☒	AI in healthcare operations	☐	AI governance, regulation, ethics and social impact
☐	AI in medical education	☐	AI in health informatics (e.g., electronic health records)
☐	AI in global health	☐	Natural language processing, large language models, generative AI
☐	AI in biomedical signal processing (e.g., ECG, EEG)	☐	Emerging AI technologies (e.g., federated learning, blockchain)

Contact details of Presenting Author

Title : ☐ Prof ☐ A/Prof ☐ Dr ☒ Mr ☐ Ms ☐ Mrs

Full name: Wu Jinyang

Institution: Institute for Infocomm Research, A*STAR

Designation: Senior Research Engineer

Department: Aural and Language Intelligence Department

Country: Singapore

Email: wu_jinyang@i2r.a-star.edu.sg

Full List of Authors and Affiliations

Name: Jinyang Wu^{*,1}, Zhengyuan Liu^{*,1}, Mojisola Erdt¹, Kavineshaan Ramdas¹, Qi Yuan Tay¹, Jia Shern Ang¹, Siti Maryam Binte Ahmad Subaidi¹, Siti Umairah Md Salleh¹, Sakinah Binte Yusof¹, Nabilah Binte Md Johan¹, Ridong Jiang¹, Gunady Ng¹, Bryan Choo Peide², Ann Teng², Angela Ng², Sharon Ong², Kryslyn Kae², Junaidah Binte Ibrahim², Lim Geok Choo², Halimah Binte Sarim², Rebecca Ong Hui Shan², Ezra Ho Suhan², Yong Mong Bee³, Lee Yian Chin², Joan Khoo², Hong Choon Oh², Pavitra Krishnaswamy^{#,1}, Nancy F. Chen^{#,1}

* equal contribution; #equal contribution

Institution: ¹Institute for Infocomm Research, A*STAR

²Changi General Hospital, SingHealth

³Singapore General Hospital, SingHealth

Abstract

- Abstracts should be between 250-350 words.
- At most 1 table/figure is allowed.
- Authors are recommended to follow reporting guidelines such as CONSORT-AI, SPIRIT-AI, STARD-AI, and DECIDE-AI. More details are available in the following article:
<https://doi.org/10.47102/annals-acadmedsg.2022452>

Title:

***Siu Dai* Interactive Agent: Empowering Type 2 Diabetes Patients with Adaptive Telesupport**

Background and Aim

Type 2 diabetes (T2D) presents substantial self-management challenges. While telediabetes programmes are effective in supporting self-management, they are resource-intensive. Interactive dialogue technology could aid practitioners in adapting telesupport interventions for individual needs in a timely yet resource-efficient manner.

This study aims to develop and evaluate *Siu Dai*, **Sharing Information with Users on Diabetes Actions and Interventions**, an interactive agent designed to dynamically gather information from T2D patients and facilitate adaptive telesupport interventions.

Methods

We followed a collaborative codesign process involving AI scientists, developers, telehealth nurses, clinicians and patients. A conversation protocol was designed by leveraging a dataset of 852 transcribed conversations between 17 telehealth nurses and 173 patients. Given the target of high technological readiness for deployment, we designed models that automatically generate clinically validated questions. We iteratively prototyped and tested *Siu Dai* for alignment to conversation protocol, user experience, and system robustness requirements; and conducted a user acceptance test (UAT) with five telehealth nurses and one T2D patient. The UAT was followed by semi-structured 1-1 in-person interviews based on the theoretical framework of acceptability. Recordings were thematically analyzed to pinpoint areas for enhancement.

Results

Siu Dai conducts regular interactions with seven question groups, encompassing up to 16 topics (e.g., hypoglycaemia, diet), and links patients to educational materials. It tailors interactions to individual schedules and includes a reminder engine to ensure engagement. *Siu Dai* can answer patient questions, using its neural semantic representation models. Finally, *Siu Dai* compiles patient responses into structured reports, highlighting clinically concerning information for nurse follow-up.

UAT interviews informed areas for enhancement: improving patient engagement through human-like text exchanges, sharpening educational content, and streamlining information flow and user interface. Despite these suggested refinements, telehealth nurses largely viewed *Siu Dai* as promising for empowering patient engagement and were receptive to its future rollout.

Conclusion

Siu Dai has been refined from the UAT phase and is set for a larger clinical feasibility study. We anticipate it will generate compelling insights to enhance adaptive telehealth workflows for diabetes and related chronic conditions.

Please add table / figure here, if any.