

In the spotlight



Towards Aligning Multimodal LLMs with Human Experts: A Focus on Parent-Child Interaction

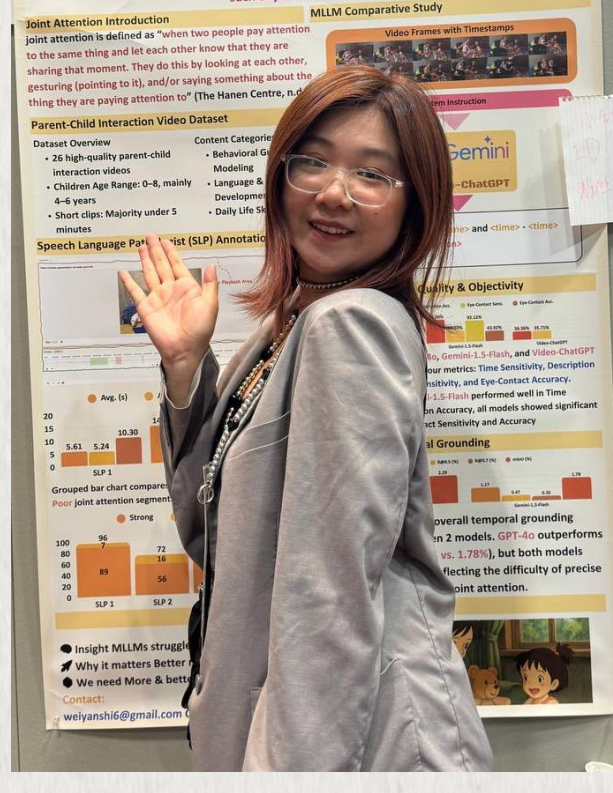
Association for Computing Machinery (ACM) CHI Conference on Human Factors in Computing Systems

SUTD Authors: Weiyan Vivian Shi, Kenny Tsu Wei Choo

AI systems are becoming better at analysing images, videos, and text, but understanding complex human interactions remains difficult. In this research, we explored whether multimodal large language models (MLLMs) can assist experts in analysing parent-child interactions, an important area for supporting children's early communication development.

Working with speech-language pathologists (SLPs), we studied how experts assess joint attention, a key behaviour where a child and caregiver focus on the same object or activity. We found that AI systems can reliably identify observable behaviours such as gaze direction, actions, and vocalisations when guided by expert-designed prompts. However, interpreting the meaning of these behaviours — something that requires professional judgement and context — remains challenging for AI.

Our findings suggest that AI can serve as a helpful observation assistant for professionals but should complement rather than replace human expertise in sensitive developmental settings.



"AI can reliably observe behaviour, but interpreting people's social interactions still requires human expertise and professional judgement."

- Weiyan Shi

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TRAILBLAZERS



Development of an Interpretable Deep Learning-Based Segmentation Algorithm for Automated Assessment of Oral Diadochokinesis in Progressive Neurological Diseases

Journal Of Speech Language And Hearing Research

SUTD Authors: Jan Melechovsky, Dorien Herremans

ISTD

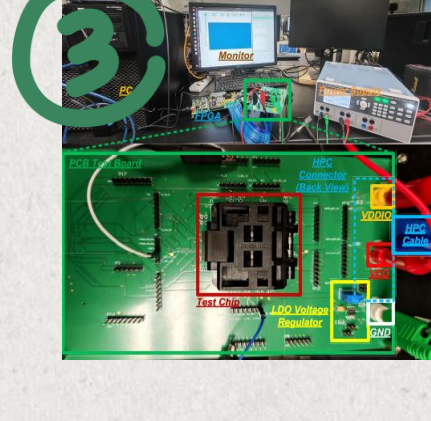


Temporal Attractor-Weighted Spatial Network Analysis of Pedestrian Density in Integrated Multilevel Public Spaces

Technology-Architecture + Design

SUTD Authors: Anjanaa Devi Srikanth, Thomas Schroepfer

ASD

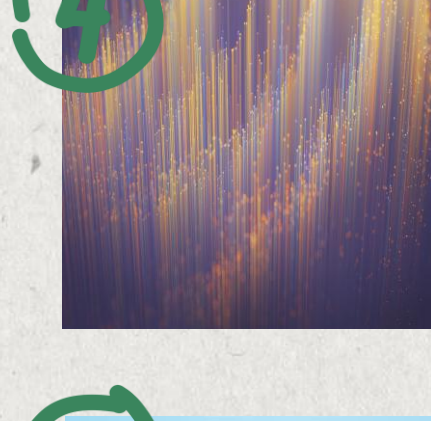


A Lossless, Reconfigurable FP8 Compute-in-Memory Accelerator With Domino Logic-Based In-Memory Multiplication and Sign-Group Aggregation for Transformers

IEEE Journal On Emerging And Selected Topics In Circuits And Systems

SUTD Authors: Li Dongrui, Wang Bo

ISTD

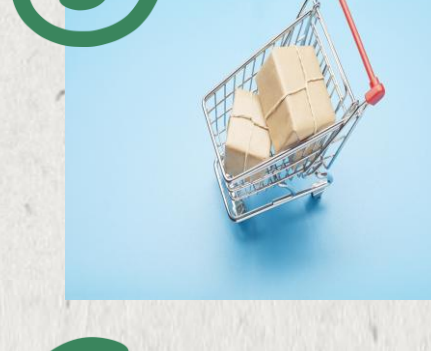


Nonlinear optics in ultra-silicon-rich nitride devices

Moems And Miniaturized Systems XXV

SUTD Authors: Tan, D. T. H., Choi, J. W., Sohn, B. U., Sahin, E., Chia, X. X., Ong, K. Y. K., Chen, G. F. R., Chowdury, A., Wang, X., Wang, Y., Gao, H.

EPD



A Nonparametric Approach with Marginals for Modeling Consumer Choice

Management Science

SUTD Author: Ruan Yanqiu, Karthyek Murthy, Karthik Natarajan

ESD

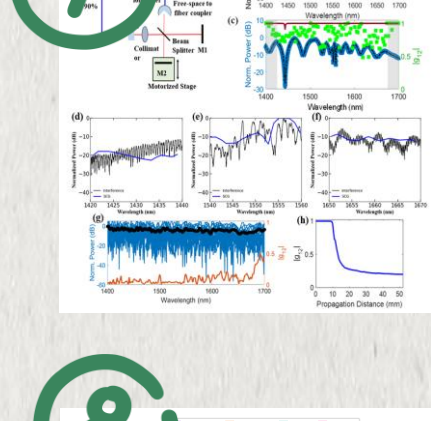


Aggregating heavy-tailed random vectors: from finite sums to lévy processes

Advances In Applied Probability

SUTD Author: Bikramjit Das

ESD

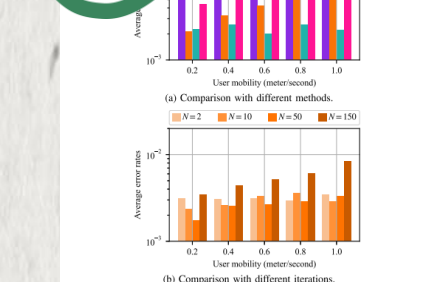


Octave-spanning supercontinuum generation in a wafer-scale, low loss deuterated silicon nitride waveguide

Optics Express

SUTD Authors: Wang Yao, Amdad Chowdury, Choi Juwon, Sohn, Byoung-Uk, George Chen F. R., Dawn Tan T. H.

Photon Devices & Systems Group



SIG-SDP: Sparse Interference Graph-Aided Semidefinite Programming for Large-Scale Wireless Time-Sensitive Networking

IEEE Transactions On Networking

SUTD Authors: Gu Zhouyou, Park Jihong

ISTD

