



February 2023

IMPact@SUTD is a regular update featuring works by SUTD Faculty, Researchers, Students and Research Centres/Labs. We hope to create awareness of the Research by SUTD within the SUTD community and beyond. Share with us your SUTD works today so that we can include it in our next update.

Congratulations, on your new book!



We would like to extend our heartiest congratulations to Assistant Professor Gordon Tan (HASS), on his newly co-authored book: *Misinformation in the Digital Age: An American Infodemic*.

"Utilising a geographic lens to examine the adoption and dissemination of, and attention to 'fake news'; this timely and important book explores how misinformation in the digital age calls attention to the multiple geographic dimensions of online fictions, conspiracy theories and political disinformation."
Gordan Tan



Scan here for more information



FedCorr: Multi-Stage Federated Learning for Label Noise Correction
2022 IEEE/CVF Conference on Computer Vision and Pattern Recognition

SUTD Author: Xu, Jingyi; Chen, Zihan; Quek, Tony Q. S.; Chong, Kai Fong Ernest

"This work presents a general multi-stage federated learning framework that tackles data heterogeneity, with respect to both local label quality and local data statistics. Without making any assumptions about the local noise model, this framework demonstrates robustness and outperformance over diverse heterogeneous and noisy settings, in a privacy-preserving manner."

--- [Tony Quek](#)



Few-shot Image Generation via Adaptation-Aware Kernel Modulation
Thirty-Sixth Conference on Neural Information Processing Systems

SUTD Author: Yunqing Zhao, Keshigeyan Chandrasegaran, Milad Abdollahzadeh, Ngai-Man Cheung

"In this work, we study few-shot image generation (FSIG), which aims to learn to generate new and diverse samples given an extremely limited number of samples from a domain, e.g., 10 training samples. We propose Adaptation-Aware kernel Modulation (AdAM) to address general FSIG of different source-target domain proximity. Extensive experimental results show that the proposed method consistently achieves SOTA performance across source/target domains of different proximity, including challenging setups when source and target domains are more apart."

--- [Cheung Ngai-Man](#)



Exact 3D Path Generation via 3D Cam-Linkage Mechanisms
ACM Transactions on Graphics

SUTD Author: Cheng, Yingjie; Song, Peng; Lu, Yukun; Chew, Wen Jie Jeremy

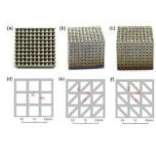
"In this work, we introduce a new 3D cam-linkage mechanism for exact 3D path generation, which only consists of two 3D cams and five links. We propose an optimization-based approach to designing a 3D cam-linkage mechanism for exactly generating a continuous 3D path with arbitrary shape."

--- [Song Peng](#)



An Efficient, Short Stimulus PANC-1 Cancer Cell Ablation and Electrothermal Therapy Driven by Hydrophobic Interactions
Pharmaceutics

SUTD Author: Meivita, Maria P.; Lee, Denise; Naikar, J. Shamita; Go, Shao-Xiang; Bajalovic, Natasa; Loke, Desmond K.



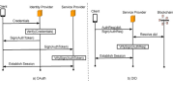
Characterisation of in-situ alloyed titanium-tantalum lattice structures by laser powder bed fusion using finite element analysis
Virtual and Physical Prototyping

SUTD Author: Chua, Cheraq; Chua, C. K.



Control over Berry Curvature Dipole with Electric Field in WTe2
Physical Review Letters

SUTD Author: Liu, Huiying; Yang, Shengyuan A




Decentralized Identity Authentication with Auditability and Privacy
Algorithms

SUTD Author: Alangot, Bithin; Szalachowski, Pawel; Dinh, Tien Tuan Anh




Design representation as semantic networks
Computers in Industry

SUTD Author: Sarica, Serhad



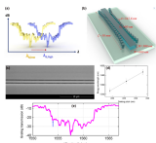
Dialogue Relation Extraction with Document-Level Heterogeneous Graph Attention Networks
Cognitive Computation

SUTD Author: Chen, Hui; Hong, Pengfei; Han, Wei; Majumder, Navonil; Poria, Soujanya



Embedding knowledge graph of patent metadata to measure knowledge proximity
Journal of the Association for Information Science and Technology

SUTD Author: Li, Guangtong; Siddharth, L.; Luo, Jianxi



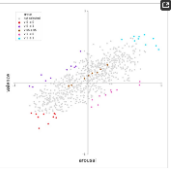
Gap solitons on an integrated CMOS chip
Nanophotonics

SUTD Author: Choi, Ju Won; Sohn, Byoung-Uk; Sahin, Ezgi; Chen, George F. R.; Xing, Peng; Tan, Dawn T. H.




How do airlines react to slot displacements? Evidence from a major airport
Journal of Air Transport Management

SUTD Author: Ribeiro, Nuno Antunes



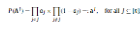
MERP: A Music Dataset with Emotion Ratings and Raters' Profile Information
Sensors

SUTD Author: Koh, En Yan; Cheuk, Kin Wai; Heung, Kwan Yee; Herremans, Dorien



OTFS-Aided RIS-Assisted SAGIN Systems Outperform Their OFDM Counterparts in Doubly Selective High-Doppler Scenarios
IEEE Internet of Things Journal

SUTD Author: An, Jiancheng



Probability bounds for n random events under (n-1)-wise independence
Operations Research Letters

SUTD Author: Natarajan, Karthik; Ramachandra, Arjun; Tan, Colin

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