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Technology fitness landscape for design innovation: a deep neural embedding approach based on patent data
Journal of Engineering Design

SUTD Author: Luo Jianxi

"We construct a technology fitness landscape via deep neural embeddings of patent data. The landscape, consisting of 1,757 technology domains and their respective improvement rates, provides a bird's-eye view of the structure of the total technology space and a biologically-inspired inference to next innovation opportunities and directions."

--- [Luo Jianxi](#)



The ethics of wicked problems: an exegesis
Socio-Ecological Practice Research

SUTD Author: Jeffrey K. H. Chan

"Urgent issues of climate change, rapid urbanization and public health are teeming with wicked problems. How these problems are framed presuppose ethics; yet the ethics of wicked problems has remained woefully under-developed. This article aims to draw out the ethics of each of the ten properties of a wicked problem."

--- [Jeffrey Chan](#)



Cross Vision-RF Gait Re-identification with Low-cost RGB-D Cameras and mmWave Radars
Proceedings of the ACM on Interactive Mobile Wearable and Ubiquitous Technologies

SUTD Author: Jiang, Wenchao

"This work proposes a novel vision-RF system for cross-modal human re-identification (ReID). With a novel signature synthesis algorithm based on the radar specular reflection and a deep metric learning model for data synchronization, our system is able to achieve a robust ReID with 92.5% top-1 accuracy out of 56 volunteers."

--- [Jiang Wenchao](#)

Cataloguing MoSi₂N₄ and WSi₂N₄ van der Waals Heterostructures: An Exceptional Material Platform for Excitonic Solar Cell Applications
Advanced Materials Interfaces

SUTD Author: Tho, Che Chen; Wang, Qianqian; Su, Tong; Feng, Zhuoer; Wu, Qingyun; Yang, Shengyuan A.; Ang, Lay Kee; Ang, Yee Sin

Clustering and Analysis of GPS Trajectory Data Using Distance-Based Features
IEEE Access

SUTD Author: Koh, Zann; Zhou, Yuren; Lau, Billy Pik Lik; Liu, Ran; Yuen, Chau, Chong, Keng Hua

Emergent antiferromagnetism in Y-shaped Kekulé graphene
Physical Review B

SUTD Author: Feng, Xukun; Yang, Shengyuan A.

Federated Stochastic Gradient Descent Begets Self-induced Momentum
 2022 *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*

SUTD Author: Quek, Tony Q. S.

Few-Shot Specific Emitter Identification via Deep Metric Ensemble Learning
IEEE Internet of Things Journal

SUTD Author: Yuen, Chau

Hybrid Beamforming Design for Self-Interference Cancellation in Full-Duplex Millimeter-Wave MIMO Systems with Dynamic Subarrays
Entropy

SUTD Author: Gong, Tierui

Neuromorphic In-Memory RRAM NAND/NOR Circuit Performance Analysis in a CNN Training Framework on the Edge for Low Power IoT
IEEE Access

SUTD Author: Prabhu, Nagaraj Lakshmana; Raghavan, Nagarajan

Privacy-Preserving Federated Learning based on Differential Privacy and Momentum Gradient Descent
 2022 *International Joint Conference on Neural Networks (IJCNN)*

SUTD Author: Feng, Chenyuan

Strain effects on the topological and valley properties of the Janus monolayer VSIGeN₄
Physical Review B

SUTD Author: Ang, Yee-Sin

Surface characteristics of polystyrene microplastics mainly determine their coagulation performances
Marine Pollution Bulletin

SUTD Author: Yao, Jingjing; Yang, Hui Ying

Ultrasensitive low-probe-concentration PANC-1 and MCF-7 cancer cell sensors enabled by combined 2D-material-polymer-phage frameworks
Materials Advances

SUTD Author: Lee, Denise; Chan, Sophia Shuwn-Yi; Meivita, Maria Prisca; Bajalovic, Natasa; Loke, Desmond K

WikiDes: A Wikipedia-based dataset for generating short descriptions from paragraphs
Information Fusion

SUTD Author: Majumder, Navonil; Poria, Soujanya

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