

October 2022

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.



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

SUTD Author: Nuno Antunes Ribeiro

"In this article, we use logistic regression models to analyze the reactions of airlines to slot displacement decisions by coordinators and the subsequent need to change their flight schedules. Our results indicate that even a small displacement (of less than 30 min) can decrease substantially the odds of a flight being scheduled, but that these odds vary widely with the type of airline involved, the time of the day and several other factors."

--- Nuno Antunes Ribeiro



Participatory approaches to enact meaningful interconnectedness with the natural environment: a case study in Singapore Cities & Health

SUTD Author: Chong Keng Hua and Kato Yohei

"Our study examined how nature placemaking programmes enhance the wellbeing of residents in Singapore. Through case study of the pioneer NGO, 'Ground-Up Initiative (GUI)', we found that more engagement with nature placemaking is associated with a higher psychological wellbeing, and that facilitators contribute to promoting interconnectedness with the natural environment."

--- Chong Keng Hua



Passenger-Centric
Slot Allocation at
ScheduleCoordinated
Airports
Transportation Science

SUTD Author: Nuno Antunes Ribeiro

"This paper proposes an original passenger-centric approach to airport slot allocation to maximize available itineraries and minimize connecting times. Because of the uncertainty regarding passenger demand, the proposed approach combines predictive analytics to forecast passenger flows in flight networks from historical data and prescriptive analytics to optimize airport slot assignments in view of flight-centric and passenger-centric considerations."

--- Nuno Antunes Ribeiro



A systematic survey of attack detection and prevention in Connected and Autonomous Vehicles

Vehicular Communications

SUTD Author: Limbasiya Trupil; Teng Ko Zheng; Chattopadhyay Sudipta and Zhou Jianying



Design of Mutual-Information-Maximizing Quantized Shuffled Min-Sum Decoder for Rate-Compatible Quasi-Cyclic LDPC Codes Electronics

SUTD Author: Kang Peng and Cai Kui



Designing highefficiency metal and semimetal contacts to two-dimensional semiconductor gamma-GeSe Applied Physics Letters

SUTD Author: Ang Yee Sin

(a)\ /\ / (b)\ /\ ,

Electric-field induced magneticanisotropy transformation to achieve spontaneous valley polarization

Journals of Materials Chemistry C

SUTD Author: Ang Yee Sin



Exploring the Potential Impact of Crowdshipping Using Public Transport in Singapore

Transportation Research Record

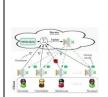
SUTD Author: Zhang Meijing and Cheah Lynette



Intelligent MIMO Detection Using Meta Learning IEEE Wireless

Communications Letters

SUTD Author: Xu, Jindan



Long-Short History
of Gradients Is All
You Need:
Detecting Malicious
and Unreliable
Clients in Federated
Learning

Computer Security

SUTD Author: Ngo Mao V.



Low Energy Switching of Phase Change Materials Using a 2D Thermal Boundary Layer

ACS Applied Materials & Interfaces

SUTD Author: Ning Jing, Wang Yunzheng and Teo Ting Yu



Mobility-Aware Cluster Federated Learning in Hierarchical Wireless Networks

IEEE Transactions on Wireless Communications

SUTD Author: Quek Tony Q. S



Plug-Mate: An IoTbased occupancydriven plug load management system in smart buildings Building & Environment

SUTD Author: Tekler Zeynep Duygu, Low Raymond, Yuen Chau and Blessing Lucienne



Spherical Indoor Coanda Effect Drone (SpICED): A Spherical Blimp sUAS for Safe Indoor Use

Drones

SUTD Author: Ying Hong Pheh, Win Shane Kyi Hla and Foong Shaohui



Urban Heat Island Mitigation: GIS-Based Analysis for a Tropical City Singapore

International Journal of Environmental Research and Public Health

SUTD Author: Teo Ya Hui, Makani Mohamed Akbar Bin Humayun, Wang Weimeng, Yap Jun Hong and Cheong Kang Hao

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