July 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.



Accurate profiling of blood components in microliter with position-insensitive coplanar electrodes-based cytometry
Sensors and Actuators B: Chemical

SUTD Author: Jianwei Zhong, Minhui Liang and Ye Ai

"Identification and counting of blood cell subtypes are essential for medical diagnosis, which is only accessible in centralized biomedical laboratories. Here, we developed a microfluidic single-cell electrical impedance measurement device that enables accurate profiling of blood components. This miniaturized device has great potential to provide point-of-care solution for blood analysis."



Al-Enabled Mosquito Surveillance and Population Mapping Using Dragonfly Robot Sensors

SUTD Author: Archana Semwal, Lee Ming Jun Melvin, Rajesh Elara Mohan, Balakrishnan Ramalingam, and Thejus Pathmakumar

"This work presents an Al-enabled mosquito surveillance and population mapping framework using our in-house-developed robot, named 'Dragonfly', which uses the You Only Look Once (YOLO) V4 Deep Neural Network (DNN) algorithm and a two-dimensional (2D) environment map generated by the robot."

--- Archana Semwal

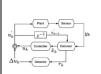


Support vector machines as Bayes' classifiers Operations Research

SUTD Author: Peter L.Jackson

"We reformulate the problem of determining support vectors directly as an application of Bayes' classifiers rather than as the dual program to a binary geometric separation problem. The primary purpose of the reformulation is to create a simpler exposition of the support vector machines technique. A secondary advantage is that it immediately and naturally applies to multi-class classification problems where the kernel function can be normalized as a density."

--- Peter L.Jackson



A practical physical watermarking approach to detect replay attacks in a CPS

--- Ye Ai

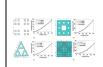
Journal of Process Control

SUTD Author: Vishrut Kumar Mishra



Automatic Microfluidic Cell Wash Platform for Purifying Cells in Suspension: Puriogen Analytical Chemistry

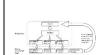
SUTD Author: Xiaoguang Lu and Ye Ai



Capacitance for fractal-like disordered dielectric slab

Journal of Applied Physics

SUTD Author: Samra Kanwal, Chun Yun Kee, Samuel Y. W. Low and Ang Lay Kee, Ricky



Enhancing the MEP Coordination Process with BIM Technology and Management Strategies Sensors

Sensoi

SUTD Author: Ya Hui Teo, Jun Hong Yap and Kang Hao Cheong



Protecting Location Privacy by Multiquery: A Dynamic Bayesian Game Theoretic Approach

IEEE Transactions on Information Forensics and Security

SUTD Author: Shu Hong and Lingjie Duan



Resilience analysis of infrastructure systems in incremental design change

Computers in Industry

SUTD Author: Edwin C.Y.Koh



Special issue introduction Public service motivation: global knowledge, regional perspective

Asia Pacific Journal of Public Administration

SUTD Author: Assel Mussagulova



Understanding
acceptance of shared
autonomous vehicles
among people with
different mobility and
communication needs
Travel Behaviour and

Iravel Behaviour and Society

SUTD Author: Kristine Miller and Lynette Cheah



Worst-Case Rigidity Analysis and Optimization for Assemblies with Mechanical Joints

Computer Graphics Forum

SUTD Author: ,Peng Song

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