IMPact@SUTD

Impossible Made Possible by architects, catalysts and technologists

February 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.

CONGRATULATIONS!

Georgios Piliouras
(Associate Professor, ESD)

For receiving the honorable mention as a runner-up for the *AAMAS 2022 Best Paper Award for the paper "Poincaré-Bendixson Limit Sets in Multi-Agent Learning".

*AAMAS (International Conference on Autonomous Agents and Multiagent Systems) is the largest and most influential conference in the area of agents and multiagent systems. AAMAS is the flagship conference of the non-profit International Foundation for Autonomous Agents and Multiagent Systems (IFAAMAS).

CONGRATULATIONS!

Assistant Professor Karthyek Murthy (ESD)

Dr Anand Deo (ESD)

For being awarded Third Place in the *2021 INFORMS Junior Faculty Forum (JFIG) Paper Competition for the paper "Achieving efficiency in black-box simulation of distribution tails with self-structuring importance samplers".

*This prestigious competition solicits submissions broadly in Operations Research, Management Science and Analytics, spanning a spectrum of technical groups such as AI, aviation, auctions and market design, behavioural operations management, data mining, energy, finance, revenue management, network analytics, etc.

'Data dregs' and its implications for AI ethics: Revelations from the pandemic
AI and Ethics

SUTD Author: Lim Sun Sun

"Big Tech companies possess extensive and granular data, tantamount to premium oil. Governments, universities and think tanks undertake data collection efforts that pale in comparison, contending with 'data dregs'. We explain why such extreme data inequity subverts ethical AI and propose addressing it through data sharing and Open Data initiatives."

--- Lim Sun Sun

Automatic strain sensor design via active learning and data augmentation for soft machines
Nature Machine Intelligence

SUTD Author: Tien Van Truong and Pablo Valdivia y. Alvarado

"In this collaborative study between NUS, the University of Maryland, and SUTD, a novel approach to designing high-performance strain sensors using machine learning was developed. Our high-accuracy prediction models can automate the design of strain sensors that can be easily integrated into various soft machines to endow them with tailored real-time strain-sensing capabilities."

--- Pablo Valdivia y. Alvarado

The normative dimensions of flood risk management: Twotypes of flood harm
Journal of Flood Risk Management

SUTD Author: Jeffrey Kok Hui Chan

"In a milieu of extreme weather events, flood managers have been observed to protect certain areas at the expense of compounding flood risk elsewhere, or deliberately flooding other places. This is the first paper that describes and examines the ethics of flood harm as risk harm and outcome harm."

--- Jeffrey Kok Hui Chan

A Survey of Blind Modulation Classification Techniques for OFDM Signals
Sensors

SUTD Author: Chau Yuen

A Survey of Embodied AI: From Simulators to Research Tasks
IEEE Transactions on Emerging Topics in Computational Intelligence

SUTD Author: Samson Yu

Bayesian learning of Gaussian mixture model for calculating debris flow exceedance probability
Georisk-Assessment and Management of Risk for Engineered Systems and Geohazards

SUTD Author: Kok-Kwang Phoon

Benchmark examples for data-driven site characterisation
Georisk-Assessment and Management of Risk for Engineered Systems and Geohazards

SUTD Author: Kok-Kwang Phoon

Circ-Tree: A B plus - Tree Variant With Circular Design for Persistent Memory
IEEE Transactions on Computers

SUTD Author: Xingbin Jiang and Sudipta Chattopadhyay

Plexcitonic strong coupling: unique features, applications, and challenges
Journal of Physics D-Applied Physics
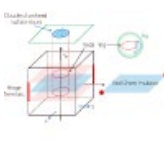
SUTD Author: Wen-Jie Zhou, Lay Kee Ang and Lin Wu

Pricing Radioactive Pollutants: Evidence from the Swedish Housing Market
Journal of Real Estate Finance and Economics

SUTD Author: Fredrik Hansson

Second-Order Real Nodal-Line Semimetal in Three-Dimensional Graphdiyne
Physical Review Letters

SUTD Author: Cong Chen and Shengyuan A. Yang

"What we know is a drop, what we don't know is an ocean."
-- Isaac Newton

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