Lee Kuan Yew Centre for Innovative Cities

cordially invites you to a Brown Bag Lunchtime Talk

Fair, Transparent and Collaborative Algorithms in Data-Driven Environments

Dr Yair Zick
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Department of Computer Science,
National University of Singapore

Date:	Wednesday, 24 April 2019
Time:	12.00 pm to 1.00 pm
Venue:	Lee Kuan Yew Centre for Innovative Cities, Meeting Room 21 Building 3, Level 2 Singapore University of Technology and Design 8 Somapah Road, Singapore 487372 *(see overleaf for map)*

Synopsis

Recent years have seen data-driven algorithms deployed in increasingly high-stakes environments. These algorithms often employ a complex infrastructure, making them effectively “black boxes”; this potentially exposes various stakeholders (such as end-users, or the agencies deploying said algorithms) to risks, such as unfair treatment or inadvertent data breaches. In response, government agencies and professional societies have highlighted fairness and transparency as key design paradigms in AI/ML applications.

In this talk I will discuss our recent work on the foundations of algorithmic transparency and fairness. From the transparency perspective, I will discuss how we design transparency measures that are guaranteed to satisfy certain natural desiderata; in addition, I will discuss a recent line of work showing how some natural transparency measures may be used by an adversary in order to extract private user information. Regarding fairness, I will discuss how we apply fairness paradigms to algorithms, in particular our work on designing and deploying fair allocation algorithms; our results show that humans respond well to provably fair algorithms, and are willing to collaborate effectively even in strategic domains. Finally, I will discuss how we apply learning-theoretic approaches to fairness via a novel paradigm for adapting game-theoretic solution concepts to data-driven domains.

About the Speaker

Yair Zick is an assistant professor at the Department of Computer Science at the National University of Singapore. He obtained his PhD (mathematics) from Nanyang Technological University, Singapore in 2014, and a B.Sc (Mathematics, "Amirim" honors program) from the Hebrew University of Jerusalem. His research interests include computational fair division, computational social choice, algorithmic game theory and algorithmic transparency. He is the recipient of the 2011 AAMAS Best Student Paper award, the 2014 Victor Lesser IFAAMAS Distinguished Dissertation award, the 2016 ACM EC Best Paper award, and the 2017 Singapore NRF Fellowship.

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For more information on the event, please visit https://lkycic.sutd.edu.sg/

For enquiries, please email us ✉ lkycic@sutd.edu.sg

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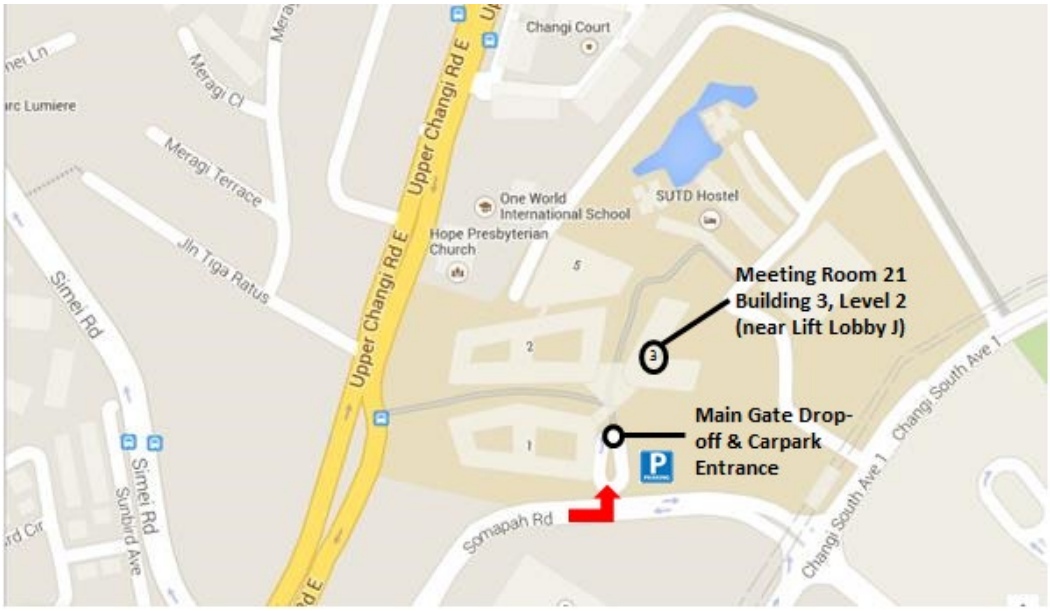

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BY BUS

Alight at one of the bus stops along Upper Changi Road East and walk to our Campus:

- B96041: Upper Changi Road East, Before Tropicana Condo. Service No: 2, 5, 24
- B96049: Upper Changi Road East, Opposite Tropicana Condo. Service No: 2, 5, 24
- B96449: SUTD - Along Somapah Road. Service No: 20
- B96441: Opposite SUTD - Along Somapah Road. Service No: 20

BY CAR

- Take Exit 2B on ECP
- Take Exit 4A on PIE
- Take Exit 1 on TPE

Turn into Somapah Road via Upper Changi Road East. The entrance is on the left. Carpark charges apply.

Click here for the map.

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