

# TExSS 22: Transparency and Explanations in Smart Systems

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## ABSTRACT

Smart systems, such as decision support or recommender systems, continue to prove challenging for people to understand, but are nonetheless ever more pervasive based on the promise of harnessing rich data sources that are becoming available in every domain. These systems tend to be opaque, raising important concerns about how to discover and account for fairness or bias issues. The workshop on Transparency and Explanations in Smart Systems (TExSS) welcomes researchers and practitioners interested in exchanging ideas for overcoming the design, development, and evaluation issues in intelligent user interfaces. Specifically, we will focus on barriers preventing better reliability, trainability, usability, trustworthiness, fairness, accountability, and transparency. This year's theme is *“Responsible, Explainable AI for Inclusivity and Trust”*, emphasizing the importance of responsibility that tech-industry and developers have towards the design, implementation and evaluation of explainable, inclusive and trustworthy human-AI interaction.

## CCS CONCEPTS

• **Human-centered computing**; • **Interactive systems and tools**; • **Computing methodologies**; • **Machine learning**; • **Artificial intelligence**;

## KEYWORDS

explanations, visualizations, machine learning, intelligent systems, intelligibility, transparency, fairness, accountability

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## 1 INTRODUCTION

Smart systems that apply complex reasoning for decision making, such as clinical decision support systems, face detection, recommender systems, and autonomous vehicles, are difficult for users to understand, interact with, and trust appropriately [2]. Fairness, accountability and transparency are crucial aspects of intelligent systems, especially as these systems become more prevalent in our day-to-day lives. Textual explanations and graphical visualizations are often provided by systems to give insight into what they are doing and why [3–6]; if models are right for the right reasons, users can be more confident that they will generalize or are operating without bias [1]. However, there are still numerous issues and problems regarding explanations and algorithm transparency that demand further attention, such as how can we build (good) algorithmic systems, particularly those that demonstrate that they are fair, accountable, and unbiased? What should be included in explanations and how (and to whom) should they be presented? How can we evaluate explanations and their ability to accurately explain underlying algorithms and overall systems' behavior, especially for the goals of fairness and accountability?

## 2 WORKSHOP OVERVIEW

The TExSS 2022 workshop brings together academia and industry researchers to exchange perspectives, approaches, and results ([https://explainablesystems.comp.nus.edu.sg/2022/..](https://explainablesystems.comp.nus.edu.sg/2022/)). This workshop is the 5th iteration in the “Explainable Smart Systems” series at IUI (after ExSS18, ATEC19, ExSS19, ExSS-ATEC20 and TExSS21). This workshop includes a keynote, papers presentation and a concluding discussion, relating to the theme of transparency and explanations for fairness and social justice. The 5 accepted papers are presented as part of themed paper panel sessions and poster sessions. These papers spanned a wide variety of topics, including:

**Fairness and Transparency**

A. Shulner-Tal et al. A Framework for Predicting Fairness Perception – Towards Personalized Explanations of Algorithmic Systems Results.

Paterno, F. Towards Understanding the Transparency of Automations in Daily Environments.

**Explanability**

Huber B. et al. Explaining Podcast Recommendations To Users with Content Diversity Labels.

Dodge, J. The Case Against Case-Based Explanation.

Sarkar, A.. Is explainable AI a race against model complexity?

**3 WORKSHOP ORGANIZERS**

The workshop was organized by a committee of nine people, spanning Europe, North America and Asia, who attended the workshop and conference. The organizers include Dr. Alison Smith-Renner (Decisive Analytics Corporation, USA), Dr. Styliani Kleanthous (Open University of Cyprus), Dr. Brian Lim (National University of Singapore), Dr. Advait Sarkar and Dr. Carina Negreanu, (Microsoft Research, Cambridge, UK), Dr. Simone Stumpf (City, University of London, UK), Jonathan Dodge (Oregon State University, USA), Dr.

Tsvi Kuflik (University of Haifa), Avital Shulner-Tal (University of Haifa), These workshop organizers have a breadth of experience organizing similar workshops at IUI and other conferences.

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