[PDF] Экологические установки и эмансипативные ценности: анализ данных Европейского исследования ценностей

А Смигельски, Б Соколов, А Немировская - СОЦИОЛОГИЧЕСКОЕ ОБОЗРЕНИЕ, 2024

284 СОЦИОЛОГИЧЕСКОЕ ОБОЗРЕНИЕ. 2024. Т. 23. № 2 на соответствующих уровнях—в большей степени на страновом, но и на индивидуальном уровне ценности являются наиболее важным предиктором экологических установок …

[PDF] Collision Avoidance for Multiple UAVs in Unknown Scenarios with Causal Representation Disentanglement

J Zhuang, Z Xia, G Han - arXiv preprint arXiv:2407.04064, 2024

Deep reinforcement learning (DRL) has achieved remarkable progress in online path planning tasks for multi-UAV systems. However, existing DRL-based methods often suffer from performance degradation when tackling unseen scenarios, since …

Introduction to causal graphs for education researchers

Y Feng - Asia Pacific Education Review, 2024

Causal inference is a central topic in education research, although oftentimes it relies on observational studies, which makes causal identification methodologically challenging. This manuscript introduces causal graphs as a powerful language for …

[PDF] PORCA: Root Cause Analysis with Partially

C Gong, D Yao, J Wang, W Li, L Fang, Y Xie, K Feng… - arXiv preprint arXiv …, 2024

Root Cause Analysis (RCA) aims at identifying the underlying causes of system faults by uncovering and analyzing the causal structure from complex systems. It has been widely used in many application domains. Reliable diagnostic conclusions are …

[PDF] Scalable Variational Causal Discovery Unconstrained by Acyclicity

N Hoang, B Duong, T Nguyen - arXiv preprint arXiv:2407.04992, 2024

Bayesian causal discovery offers the power to quantify epistemic uncertainties among a broad range of structurally diverse causal theories potentially explaining the data, represented in forms of directed acyclic graphs (DAGs). However, existing …

[PDF] Fast Proxy Experiment Design for Causal Effect Identification

S Elahi, S Akbari, J Etesami, N Kiyavash, P Thiran - arXiv preprint arXiv:2407.05330, 2024

Identifying causal effects is a key problem of interest across many disciplines. The two long-standing approaches to estimate causal effects are observational and experimental (randomized) studies. Observational studies can suffer from …

[PDF] The possibility of scientific explanation from models based on artificial neural networks

AE Rodríguez-Sánchez - Revista Colombiana de Filosofía de la Ciencia, 2024

In Artificial Intelligence, Artificial Neural Networks are very accurate models in tasks such as classification and regression in the study of natural phenomena, but they are considered “black boxes” because they do not allow direct explanation of what they …

[PDF] The neurobiology of early adversity in trauma-and stress-related mental disorders: Timing, psychopathology, and reverse inference

M Sicorello - 2024

This cumulative dissertation is based on three research articles, published in peer-reviewed scientific journals. The publications are indicated below, together with a qualitative and quantitative (in percentages) approximate assessment of my …

[PDF] Assumption Smuggling in Intermediate Outcome Tests of Causal Mechanisms

M Blackwell, R Ma, A Opacic - arXiv preprint arXiv:2407.07072, 2024

Political scientists are increasingly attuned to the promises and pitfalls of establishing causal effects. But the vital question for many is not if a causal effect exists but why and how it exists. Even so, many researchers avoid causal mediation analyses due …

[PDF] Counterfactual Effect Decomposition in Multi-Agent Sequential Decision Making

S Triantafyllou, A Sukovic, Y Zolfimoselo, G Radanovic - 9th Causal Inference Workshop at …

We address the challenge of explaining counterfactual outcomes in multi-agent Markov decision processes. In particular, we aim to explain the total counterfactual effect of an agent's action to some realized outcome through its influence on the …

Causal intervention graph neural network for fault diagnosis of complex industrial processes

R Liu, Q Zhang, D Lin, W Zhang, SX Ding - Reliability Engineering & System Safety, 2024

With the development of industry and manufacturing, the mechanical structures of equipment have become intricate and complex. Due to the interaction between components, once a failure occurs, it will propagate through the industrial processes …

[PDF] Generating Commonsense Explanations with Answer Set Programming

B Muñiz - 2024

In this thesis, we explore the notion of commonsense explanation in the context of Artificial Intelligence by extending the formalism of Answer Set Programming (ASP) with formal annotations. To this aim, we define the concept of support graphs to …

Application Potential for Causal Inference in Online Marketing

T Barton - Artificial intelligence in application: Legal aspects …, 2024

The application of causal diagrams together with the mathematical language of probability theory offers the opportunity to formulate questions of the kind What if? Accessed and, under certain circumstances, to answer them in a mathematically …

[PDF] Backtracking Counterfactuals for Deep Structural Causal Models

KR Kladny, J von Kügelgen, B Schölkopf… - 9th Causal Inference Workshop at …

Counterfactuals answer questions of what would have been observed under altered circumstances and can therefore offer valuable insights. Whereas the classical interventional interpretation of counterfactuals has been studied extensively …

[PDF] Counterfactual Effect Decomposition in Multi-Agent Sequential Decision Making

S Triantafyllou, A Sukovic, Y Zolfimoselo, G Radanovic - 9th Causal Inference Workshop at …

We address the challenge of explaining counterfactual outcomes in multi-agent Markov decision processes. In particular, we aim to explain the total counterfactual effect of an agent's action to some realized outcome through its influence on the …

[PDF] Training on the Test Task Confounds Evaluation and Emergence

R Dominguez-Olmedo, FE Dorner, M Hardt - arXiv preprint arXiv:2407.07890, 2024

We study a fundamental problem in the evaluation of large language models that we call training on the test task. Unlike wrongful practices like training on the test data, leakage, or data contamination, training on the test task is not a malpractice. Rather …

A multi-view consistency framework with semi-supervised domain adaptation

Y Hong, L Dong, X Qiu, H Xiao, B Yao, S Zheng… - Engineering Applications of …, 2024

Abstract Semi-Supervised Domain Adaptation (SSDA) leverages knowledge from a fully labeled source domain to classify data in a partially labeled target domain. Due to the limited number of labeled samples in the target domain, there can be intrinsic …

[PDF] Causal Discovery-Driven Change Point Detection in Time Series

S Gao, R Addanki, T Yu, RA Rossi, M Kocaoglu - arXiv preprint arXiv:2407.07290, 2024

Change point detection in time series seeks to identify times when the probability distribution of time series changes. It is widely applied in many areas, such as human-activity sensing and medical science. In the context of multivariate time series, this …

[PDF] The central role of the mediator process in mediation analysis

CH Miles - 9th Causal Inference Workshop at UAI 2024

Causal mediation has traditionally been framed as the effect of an exposure on an outcome through some intermediate variable, where each variable is measured at three sequential time points. However, definitions of mediated effects and their …

[PDF] Methods for Causal Inference in Marketing

ZD He, VR Rao - Foundations and Trends® in Marketing, 2024

Establishing causal relationships between the marketing variables under the control of a firm and outcome measures such as sales and profits is essential for the successful operation of a business. The goal is generally hindered by a lack of …

Elucidating Divine Atemporality

JR Sijuwade - Metaphysica, 2024

This article aims to provide a philosophical elucidation of the concept of divine atemporality (ie divine timelessness and immutability), found within the theological trajectory of Classical Theism, and a philosophical model–termed Aspectival …

[PDF] Domain Generalization and its Application in Deepfake Detection

L Chen - 2024

Despite the continuous emergence of new machine learning systems, how to effectively deploy deep models in the real-world environment remains challenging. This is mainly due to the limited generability of current deep models: most current …

[PDF] Croatian Journal of Food Science and Technology

Ž Kurtanjek

Bayes network modelling for structural causal analysis between wine physicochemical data and quantitative human quality blind assessments is applied. The large dataset of white and red" Vinho Verde''wine samples from Portugal, which …

[PDF] On Differentiable Bayesian Causal Structure Learning

S Rittel, S Tschiatschek - 9th Causal Inference Workshop at UAI 2024

This extended abstract reviews differentiable Bayesian causal structure learning (CSL) and discusses why recent works on Bayesian causal discovery published in top-tier conference do not yet meet important desiderata. In particular, we advocate …

[PDF] SNAP: Sequential Non-Ancestor Pruning for Targeted Causal Effect Estimation With an Unknown Graph

M Schubert, T Claassen, S Magliacane - 9th Causal Inference Workshop at UAI 2024

Causal discovery often serves as a precursor to causal effect estimation, but it can be computationally demanding due to the number of conditional independence tests involved. If we are interested in estimating only the causal effects on a small subset …

[PDF] Difference graph over two populations: Implicit Difference Inference algorithm

D Bystrova, E Devijver, V Manucharian, J Mondet… - 9th Causal Inference Workshop at …

Comparing causal relations across different populations is essential in various fields, including medicine and ecology. Recently, several methods have been developed to directly infer difference graphs from observational data. These methods rely on semi …

[PDF] Fair Risk Minimization under Causal Path-Specific Effect Constraints

R Nabi, D Benkeser - 9th Causal Inference Workshop at UAI 2024

This paper introduces a comprehensive framework for deriving and estimating fair optimal predictions in machine learning, grounded in causal and counterfactual path-specific effects as constraints. We detail the theoretical foundations of our approach …

[PDF] Search, Examine and Early-Termination: Fake News Detection with Annotation-Free Evidences

Y Yang, Y Zhou, Q Ying, Z Qian, X Zhang - arXiv preprint arXiv:2407.07931, 2024

Pioneer researches recognize evidences as crucial elements in fake news detection apart from patterns. Existing evidence-aware methods either require laborious pre-processing procedures to assure relevant and high-quality evidence data, or …

[PDF] Cloud Atlas: Efficient Fault Localization for Cloud Systems using Language Models and Causal Insight

Z Xie, Y Zheng, L Ottens, K Zhang, C Kozyrakis, J Mace - arXiv preprint arXiv …, 2024

Runtime failure and performance degradation is commonplace in modern cloud systems. For cloud providers, automatically determining the root cause of incidents is paramount to ensuring high reliability and availability as prompt fault localization can …

[PDF] Nonlocal Locking of Observable Quantities: A Faithful Signature of Nonclassical Correlations

M Alimuddin, SR Chowdhury, RK Patra, SB Ghosh… - arXiv preprint arXiv …, 2024

Nonclassicality in composite quantum systems depicts several puzzling manifestations, with Einstein-Podolsky-Rosen entanglement, Schr\" odinger steering, and Bell nonlocality being the most celebrated ones. In addition to those, an …

[PDF] Identifying macro conditional independencies and macro total effects in summary causal graphs with latent confounding

S Ferreira, CK Assaad - arXiv preprint arXiv:2407.07934, 2024

Understanding causal relationships in dynamic systems is essential for numerous scientific fields, including epidemiology, economics, and biology. While causal inference methods have been extensively studied, they often rely on fully specified …

[PDF] Veteran Suicide and the Ideation to Action Framework: A Critical Examination and in-Depth Analysis of Theory

MN Woods - 2023

Suicide is a global health problem, and veterans are at a disproportionately higher risk for suicide than the general population. The theories commonly used in suicide need to be adequately examined and analyzed prior to the use of new methods of …

Contemplative Science: Expanding the Scope of Empiricism to Increase the Convergence of Evidence

NJ Matiasz, BA Wallace - The Routledge Handbook of Research Methods in …

Science would benefit tremendously from a theory of consciousness and other mental phenomena that can be unified with contemporary theories of physics and the biological sciences. Toward this aim, scientists primarily study mental phenomena …