



IPS Paper

Statistical learning and ethical artificial intelligence

Author: Prof. Rochelle Tractenberg

Coauthors: Wendy Martinez, Donna LaLonde, Jennifer Park

Submission ID: 1512

Reference Number: 1512

Presentation File

abstracts/ottawa-2023_d3e97bf469ac04b995d8e0b616370eff.pdf

Brief Description

The Ethical Guidelines for Statistical Practice of the American Statistical Association represents the ethical practice standard for any person at any level of training or job title.

Statistical practice "includes activities such as: designing the collection of, summarizing, processing, analyzing, interpreting, or presenting, data; as well as model or algorithm development and deployment." These Guidelines include eight principles and an Appendix; one Guideline Principle (G.

Responsibilities of Leaders, Supervisors, and Mentors in Statistical Practice) with its five elements and the Appendix (Responsibilities of organizations/institutions) with its 12 elements are specifically intended to support both workplace engagement with, and support of, ethical statistical practices, and the specific roles and responsibilities of those in leadership positions.

A recent formal content analysis examined the alignment of the ASA Ethical Guideline element(s) with the Fundamental Principles of Official Statistics (UN, 2014), Good Statistical Practice (OECD, 2014), European Statistics Code of Practice (ESSC 2017), Statistical Practice Directive #1 (USA, 2014), Principles and Practices for Federal Statistical Agencies and Recognized Statistical Units (USA, 2021), and Data Ethics Tenets (USA, 2020).

These six reference documents describe general aspirations for Federal/Official statistics units, but vary in terms of specific recommendations for how their elements can be achieved.

The ASA Ethical Guidelines do offer such recommendations.

This talk will highlight how the reference documents prioritize data ethics as well as ethical practice throughout the data lifecycle and algorithm development, deployment, and evaluation over time.

We will also give examples of how the ASA Ethical Guidelines can support leaders' obligations to meet these priorities for statistical learning, AI, and general practices involving statistics under each reference document.

Abstract

The Ethical Guidelines for Statistical Practice of the American Statistical Association represents the ethical practice standard for any person at any level of training or job title. Statistical practice "includes activities such as: designing the collection of, summarizing, processing, analyzing, interpreting, or presenting, data; as well as model or algorithm development and deployment." These Guidelines include eight principles and an Appendix; one Guideline Principle (G. Responsibilities of Leaders, Supervisors, and Mentors in Statistical Practice) with its five elements and the Appendix (Responsibilities of organizations/institutions) with its 12 elements are specifically intended to support both workplace engagement with, and support of, ethical statistical practices, and the specific roles and responsibilities of those in leadership positions. A recent formal content analysis examined the alignment of the ASA Ethical Guideline element(s) with the Fundamental Principles of Official Statistics (UN, 2014), Good Statistical Practice (OECD, 2014), European Statistics Code of Practice (ESSC 2017), Statistical Practice Directive #1 (USA, 2014), Principles and Practices for Federal Statistical Agencies and Recognized Statistical Units (USA, 2021), and Data Ethics Tenets (USA, 2020). These six reference documents describe general aspirations for Federal/Official statistics units, but vary in terms of specific recommendations for how their elements can be achieved. The ASA Ethical Guidelines do offer such recommendations. This talk will highlight how the reference documents prioritize data ethics as well as ethical practice throughout the data lifecycle and algorithm development, deployment, and evaluation over time. We will also give examples of how the ASA Ethical Guidelines can support leaders' obligations to meet these priorities for statistical learning, AI, and general practices involving statistics under each reference document.