Data for Good

Abstract

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ABSTRACT

I use the tagline "Data for Good" to state paronomastically how we as a community should be promoting data science, especially in training future generations of data scientists.

First, we should use data science for the *good* of humanity and society. Data science should be used to better people's lives. Data science should be used to improve relationships among people, organizations, and institutions. Data science, in collaboration with other disciplines, should be used to help tackle societal grand challenges such as climate change, education, energy, environment, healthcare, inequality, and social justice.

Second, we should use data in a *good* manner. The acronym FATES suggests what "good" means. Fairness means that the models we build are used to make unbiased decisions or predictions. Accountability means to determine and assign responsibility to someone or to something for a judgment made by a machine. Transparency means being open and clear to the end user about how an outcome, e.g., a classification, a decision, or a prediction, is made. Ethics for data science means paying attention to both the ethical and privacy-preserving collection and use of data as well as the ethical decisions that the automated systems we build will make. Safety and security (yes, two words for one "S") means ensuring that the systems we build are safe (do no harm) and secure (guard against malicious behavior).

CCS CONCEPTS

• **Information systems** → *Data mining*; • **Social and professional topics** → *Codes of ethics*; *Computing / technology policy*; • **Computing methodologies** → *Machine learning*; • **Applied computing**; • **Mathematics of computing** → Probability and statistics; • **Security and privacy** → Trust frameworks;

KEYWORDS

data science, fairness, accountability, transparency ethics, safety, security

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