Max Planck Institute for Demographic Research workshop:

Demystifying machine learning for population researchers

Advances in computational power and statistical algorithms, in conjunction with the increasing availability of large datasets, have led to a Cambrian explosion of machine learning (ML) methods. For population researchers, these methods are useful not only for predicting population dynamics but also as tools to improve causal inference tasks. However, the rapid evolution of this literature, coupled with terminological disparities from conventional approaches, renders these methods enigmatic and arduous for many population researchers to grasp.

This workshop clarifies the goals, techniques, and applications of machine learning methods for population research.
The workshop covers
(1) an introduction to ML methods for population researchers,
(2) showcases of ML applications to answer causal questions,
(3) discussions of the current developments of ML for population health, fertility and family dynamics, and
(4) fosters critical discussions about the shortfalls of these techniques.
The main focus of this workshop is on ML techniques using quantitative population data and research questions, not on ML language models. The workshop consists of keynotes, contributed sessions, and a tutorial.

One keynote lecture will be delivered by **Prof. Ian Lundberg** (Cornell University, https://www.ianlundberg.org/). **Prof. Jennie E. Brand** (UCLA, https://www.profjenniebrand.com/) will deliver an online talk.

This in-person workshop will take place in November 5-6 at the Max Planck Institute for Demographic Research in Rostock. We invite population researchers with interest in ML applications. We aim to receive contributions from different fields of population sciences, such as population health, formal and social demography, public health and economics, among others.

We invite submission of original research abstract with relevance to ML and population sciences (max 500 words) and a CV (max. one page) to MLworkshop@demogr.mpg.de.

Submission Deadline: 15. May 2024

Decisions on the selection will be communicated before May 31st.
Please direct any questions MLworkshop@demogr.mpg.de. The workshop website can be found here.

Organization committee: Angela Carollo, Aapo Hiilamo, Mikko Myrskyla.

The workshop has no fees. Participants are expected to cover their travel and accommodation but limited financial support, offered on a competitive basis, is available for junior scientists or scientists from low-middle income countries. Please indicate the request for such funding at the time of abstract submission.

The workshop is organized by the Max Planck Institute for Demographic Research and The Max Planck – University of Helsinki Center for Social Inequalities in Population Health.