Open-source Software for the Implementation of New Statistical Methods

Pierre Lamarche, Romain Lesur[1]

Abstract

This presentation explores the strategic challenges faced by organisations, particularly national statistical institutes, in adapting their data-processing approaches. Historically reliant on proprietary software, these institutions must now reconsider their technological autonomy amid the rise of open-source ecosystems and AI-driven methods. The big data revolution has accelerated the shift toward community based open-source tools that evolve rapidly and enable cutting-edge solutions. The paradigm has moved from all-purpose software to a best-of-breed approach in which the best tool is chosen for each specific task. Statisticians and data scientists therefore need to master multiple languages and adapt to fast-changing technologies. This transformation affects not only daily work practices but also training and professional development. At the same time, collaborative and knowledge-sharing tools offer unprecedented opportunities that the statistical community must embrace to disseminate new statistical methods.

Keywords:

[1] Pierre Lamarche (pierre.lamarche@insee.fr), Insee, France; Romain Lesur (romain.lesur@insee.fr), Insee, France..