Data science for tax administration

Pijnenburg, M.G.F.

Citation

Pijnenburg, M. G. F. (2020, June 24). *Data science for tax administration*. Retrieved from https://hdl.handle.net/1887/123049

Cover Page

Universiteit Leiden

The handle http://hdl.handle.net/1887/123049 holds various files of this Leiden University dissertation.

Author: Pijnenburg, M.G.F.
Title: Data science for tax administration
Issue Date: 2020-06-24

Propositions
for the PhD thesis

Data Science for Tax Collection

Mark Pijnenburg

1. Data science techniques contribute optimally to the supervision of tax authorities if there is an interplay between data science and domain knowledge (Chapter 2).

2. Factorization Machines are a valuable intermediary for incorporating interaction of categorical variables with many values into numerical algorithms (Chapter 3).

3. Anomalies with the largest number of remarkable features are not always the most valuable anomalies (Chapter 4).

4. Statistical tests can make a valuable contribution to process mining (Chapter 5).

5. Data scientists who take a multi-disciplinary approach make the largest contributions to an organization.

6. For many practical data science problems, a simple solution is preferable to the technologically superior solution, because a simple solution can be realized considerably faster and is easier to explain.

7. Techniques that assist in choosing between different unsupervised learning techniques are welcome. Consider, for example, the development of characteristics of a data set.

8. Open source software should be preferred in government processes where transparency is important. Not because the software is cheap, but because the code is verifiable.

9. Experiments are not only an excellent way to gain knowledge about the outside world, but are also useful for getting to know yourself.

10. Science can be beautiful and fascinating, but one must also not forget its limitations.

11. Practical skills are just as important in a PhD program as good ideas.