

Propositions

attached to the thesis

Privacy in Resource Allocation Problems

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I

In collaborative optimization of resource allocation problems, the involved parties can also preserve their privacy while solving the problems without the presence of a trusted third party.

(Chapter 2,3,4)

II

Transformation-based privacy preserving techniques ensure optimality at the expense of increased time complexity because of the structural changes they require on the resulting mathematical programming models.

(Chapter 2)

III

Introducing auxiliary decision variables in our resource allocation model helps us use decomposition approaches and lets us share less data in a multi-party setting.

(Chapter 3)

IV

The selection of the step-size parameter in subgradient algorithms plays a key role in achieving near-optimal solutions.

(Chapter 4)

V

In resource allocation problems, properly calibrated noise can provide not only privacy but also a better convergence rate than the deterministic approach.

(Chapter 4)

VI

For universities, academic freedom guarantees free thought, the quality of research and education, which are necessary for high-quality scientific output.

VII

Privacy is a right, not a privilege. Any data oriented application should be built upon the preservation of individual data.

VIII

Research rarely progresses in a straight line. It is also okay to fail to make any progress on some days, and researchers should not feel guilty about it.

IX

Each error is a step towards the right solution. Errors originate a wonderful opportunity to notice the nuances we missed.

X

Universities should encourage academics to build stronger ties with civil society and to participate more in civic engagement projects.

XI

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