

Augmented Intelligence, Augmented Responsibility?

A Theory of Reason-Responsiveness for Intelligence Augmentation Systems

Nick Lüthi, Christian Matt, Thomas Myrach, Iris Junglas

Business & Information Systems Engineering (2023)

Appendix (available online via <http://link.springer.com>)

Definition and examples of the core concepts for RRIAS

Concept	Definition	Example
IAS Provider/ Operator	The firm that designs/uses an IAS and its system features.	<i>A firm develops a recruitment IAS and provides it on the market. Another firm decides to use the IAS to support their recruiting processes.</i>
IAS System Features	The specific capabilities of an IAS for employees using to receive support in their decision-making by the system. Designed by the IAS provider.	<i>The IAS provider creates an algorithm that weighs different applicants for a specific job. As a result, the system presents the best candidates to the operator's employees.</i>
Distal Reason-Responsiveness	A system's ability to account for higher-level societal moral reasons, as provided by employees during design, and to react appropriately to these reasons if they emerge during use (following Santoni de Sio and van den Hoven 2018)	<i>The IAS provider strives to create a system that allows for neutral applicant assessments, they therefore decide to build system features that enable employees to make neutral judgements.</i>
Proximal Reason-Responsiveness	A system's ability to account for moral reasons that are typically provided by an IAS operator through corporate guidelines or by one of its employees directly during use, and to react appropriately to these reasons (following Santoni de Sio and van den Hoven 2018)	<i>An employee of the IAS operator finds the IAS's selection unfair, because only men were recommended. The system allows the employee to also see other applicants.</i>
Provider/ Operator Responsibility Gap	States that emerge after a provider/operator has designed/used an IAS without taking necessary precautions to account for the system's reason-responsiveness and to distribute responsibility accordingly.	<i>An operator decides to use an IAS to support recruitment processes. The operator encourages their HR staff to base their decisions on the system's recommendations.</i>
Provider/ Operator Moral Responsibility	The collective responsibility of an IAS provider/ operator if they (collectively) fulfil the following conditions: (1) They are autonomous and face a value-relevant choice, (2) have the ability to weigh differing options against each other and (3) have the necessary control to choose between the options weighed against each other (following Pettit 2007)	<i>The operator uses an IAS for hiring decisions: They (1) were free to choose whether they wanted to do so or not, (2) they could collectively choose between different IAS's, (3) they controlled how the system and its features are used by their employees. The operator is thus morally responsible.</i>