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“Screening Knowledge with Verifiable Evidence” (Sulagna Dasgupta and Zizhe Xia)

Abstract: A principal seeks to screen an agent based on his demonstrable knowledge of a subject matter, modeled as a binary state. The agent learns about the state through two kinds of opposing verifiable signals, each kind providing evidence in favor of one of the states. A high quality agent is more likely to possess evidence which is greater in both quantity and accuracy, than a low quality agent. In a symmetric setting, we show that under the optimal test, regardless of whether the agent can predict the state correctly, he is passed if his total amount of evidence provided is sufficiently high and failed if it is sufficiently low. Conditional on providing intermediate levels of evidence, the agent is passed based on a simple True-False test -- i.e., if and only if he gives the correct answer. Consequently, for intermediate levels of quality sensitivity of the principal, the optimal test is the simple True-False, which makes no use of verifiable evidence, even though it is available.

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