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Title: Cyber-Attacks and Defenses: An Endless Cat-And-Mouse Game?

Abstract: A cyber attacker needs to find only one way in, while defenders need to guard a lot of ground. Adversaries can fully debug and perfect their attacks on their own computers, exactly replicating the environment that they will later be targeting. This is the situation today, which has been exacerbated by an increasing trend towards a software "monoculture" (in which there are only two major desktop operating systems and two major phone operating systems, one major office software suite, and so on).

My talk will illustrate a "cat and mouse game" in which defenses are almost always reactive to attacks that have already happened. I will discuss my vision of how to get ahead of the attackers, and close by stating why, in spite of the bleak situation today, I am confident that we will eventually be able to stop most kinds of cyber attacks completely.