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Fujitsu Laboratories of America Technology Symposium 2015

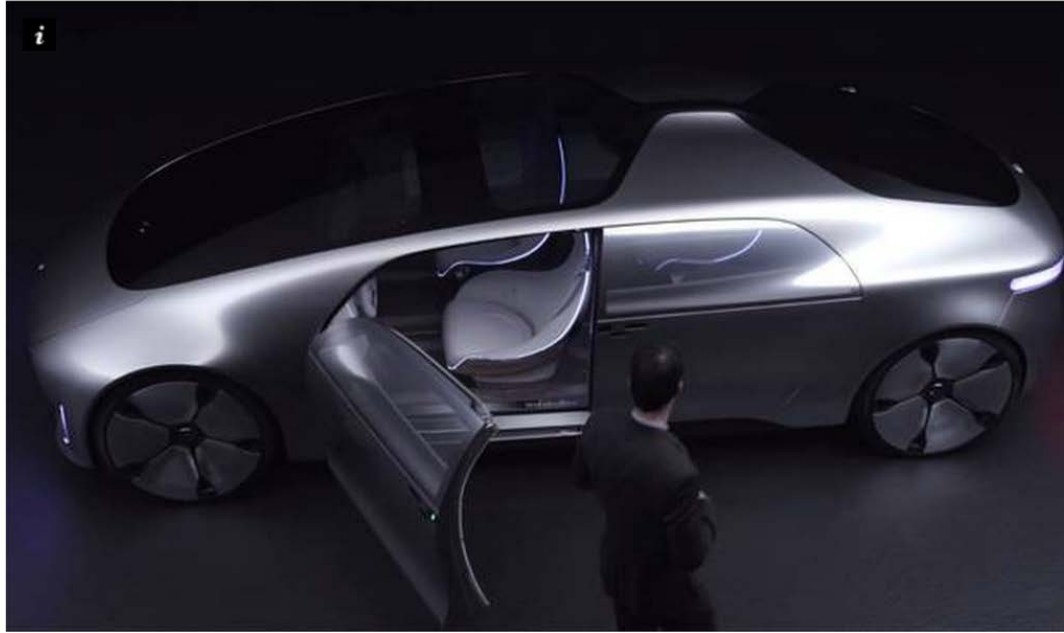
Hart Montgomery

Member of Research Staff, SSIG cryptography group

June 24, 2015

Why is a cryptographer on a robotics panel?

Self-driving cars may have to be programmed to kill you



It's all a matter of ethics

SkyJack

SkyJack is a drone engineered to autonomously seek out, hack, and wirelessly take full control over any other drones within wireless or flying distance, creating an army of zombie drones under your control.

Using a Parrot AR.Drone 2, a Raspberry Pi, a USB battery, an Alfa AWUS036H wireless transmitter, aircrack-ng, node-ar-drone, node.js, and my SkyJack software, I developed a drone that flies around, seeks the wireless signal of any other drone in the area, forcefully disconnects the wireless connection of the true owner of the target drone, then authenticates with the target drone pretending to be its owner, then feeds commands to it and all other possessed zombie drones at my will.



New Malware Can Bring Down Drones Mid-Flight



[Adam Clark Estes](#)

Filed to: DRONES 1/27/15 5:10pm

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Drone Passes Dangerously Close To Jet Near Love Field

April 29, 2015 10:24 AM

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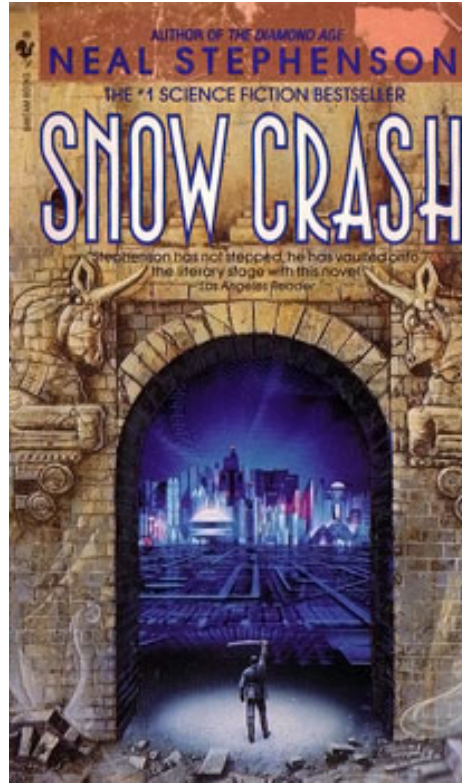
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Comprehensive Experimental Analyses of Automotive Attack Surfaces

Stephen Checkoway, Damon McCoy, Brian Kantor,
Danny Anderson, Hovav Shacham, and Stefan Savage
University of California, San Diego

Karl Koscher, Alexei Czeskis, Franziska Roesner, and Tadayoshi Kohno
University of Washington


“We discover that remote exploitation is feasible via a broad range of attack vectors (including mechanics tools, CD players, Bluetooth and cellular radio), and further, that wireless communications channels allow long distance vehicle control, location tracking, in-cabin audio exfiltration and theft.”



More powerful robots →

More dangerous robots →

Need more cryptography and security



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