

- Brief background of IoT, how its growing
 - IoT is the internet of Things. Born approximately in 2008, when things outnumbered people on the internet
 - Estimated growth: 26 billion in 2019 to 75 billion by 2025
 - <https://www.ericsson.com/en/mobility-report/internet-of-things-forecast>
 - <https://www.statista.com/statistics/471264/iot-number-of-connected-devices-worldwide/>
 - <https://dzone.com/articles/problems-with-internet-of-things-you-need-to-know>
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- Examples of security failures relating to IoT
 - Mirai botnet
 - Turn devices into “zombies” for various tasks, like online currency mining
 - Worms
 - Hacked vehicles
 - Smart home vulnerabilities
- Why is security bad
 - Lack of standards
 - People don't care(related to privacy fatigue)
 - And why
 - Cost cutting (due to lack of standards)
 - Manufacturers are trading off encryption for other things.
 - So many components around IoT devices
 - Multiple parts of the system (service, apps, device..)
 - Discuss ethical implications of bad security in IoT (negative effects)
 - Try to apply to some of these points overall (okay to be generic)
- Possible solutions:
 - Government intervention
 - Enforce minimum security measure
 - Should government regulate IoT devices??
 - What can audience members do to protect themselves?
 - Change passwords from the default device password immediately
 - Research devices before buying, make sure they use encryption and stuff
 - Always install firmware updates immediately
 - <https://www.trendmicro.com/us/iot-security/Solutions/IoT-Security>
 - <https://www.avnet.com/wps/portal/us/resources/technical-articles/article/iot/iot-security-real-problems-and-solutions/>

https://uwi-primoalma-prod.hosted.exlibrisgroup.com/primo-explore/fulldisplay?docid=TN_ieee_s7842850&context=PC&vid=MIL&lang=en_US&search_scope=MIL_ALL&adaptor=primo_central_multiple_fe&tab=main&query=any,contains,Internet%20of%20things%20%20security&sortby=rank&offset=0

- Covers botnet, zombies, other past/current exploits

<https://www.sciencedirect.com/science/article/pii/S0747563217306817>

- Brief summary for privacy fatigue

https://uwi-primoalma-prod.hosted.exlibrisgroup.com/primo-explore/fulldisplay?docid=TN_ieee_s8392610&context=PC&vid=MIL&lang=en_US&search_scope=MIL_ALL&adaptor=primo_central_multiple_fe&tab=main&query=any,contains,mirai%20botnet&sortby=rank&mode=Basic

- Extensive analysis on mirai botnet
- Other Helpful links:
 - <https://threatpost.com/iot-security-concerns-peaking-with-no-end-in-sight/131308/>
 - <https://www.isaca.org/Journal/archives/2015/Volume-4/Pages/security-and-privacy-challenges-of-iot-enabled-solutions.aspx>
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Color Key:

Anthony – Red

Fred – Purple

Ahmed - Green