Seminar Talk: "IoT Security" (Speaker: Dr. Elisa Bertino)

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Abstract

In today's presentation, Dr. Elisa Bertino discusses the current challenges in securing the Internet of Things (IoT) related devices and systems. IoT applications span across all practical aspects of modern society, from commercial devices to consumer technology. All these devices gather and transmit sensitive data, and there exist various stages of attack vectors any bad actor may take. These expanded risks force security researchers to deploy many levels of protection for all IoT systems.

I. Introduction

INTERNET of Things (IoT) refers to the network of physical objects containing sensors, computing capabilities, and some form of networking with other devices. IoT devices use these features to send data to centralized servers or centralized other connected devices using various communication technologies. IoT using sensors and computational power enables a direct connection between the physical world and the digital, allowing us to automate systems, uncover hidden meaning in data, improve healthcare management, and infinitely more possibilities. Potential and current applications range from monitoring crops to factory and supply chain management to remotely monitoring patients and medical devices, such as implanted devices and infusion pumps. Suffice it to say, the area of IoT is an ever-growing multi-trillion dollar industry and impacts us daily, but this leads to a broad and attractive attack target for any bad actors in the system.

II. Background

III. Research Contributions and Results

IV. Lessons Learned

V. Conclusion

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References

[1] E. Bertino, "Data Security and Privacy in the IoT.", 2018.

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