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# CYSE 425W CYBERSECURITY STRATEGY AND POLICY

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# MIDTERM PROJECT PART I - VIDEO

- ▶ National governments should impose restrictions on the production, distribution and/or the use of *Internet of Things* devices because powerful companies could easily get access to users' personal information without their knowledge and consent.
- ▶ Group Alpha will argue in favor of this cybersecurity strategy/policy.

# What is IOT?

- ▶ The foundation for connecting things, sensors, actuators, and other smart technologies.
- ▶ Enabling person-to-object and object-to-object communications.
- ▶ 26.6 billion active IoT devices.
- ▶ Expected to be 75 billion by 2025.

# Communication:

- ▶ Driven by various technological forces.
  - ▶ Smart devices.
  - ▶ Wireless network.
  - ▶ Pervasive connectivity.
- ▶ More “things or object” connected to the internet than people from anytime.
- ▶ Uniquely identifiable objects or "things" with a digital presence

# IOT Cloud Platform Vendors

- ▶ Three big vendors:
  - ▶ Microsoft Azure
    - ▶ Azure App Service
  - ▶ Amazon Web Services
    - ▶ Google IoT Core.
  - ▶ Google Cloud
    - ▶ Cloud storage to comprehensive development tools

# Impacts of IoT on Human life

- ▶ IoT has gradually saturated all parts of present-day human life.
  - ▶ Needs insurance against dangers and vulnerabilities.
  - ▶ IoT devices can be harnessed to wreak havoc on data security.
  - ▶ Compromise the privacy of their owner.

# Government Consequences of IoT

- ▶ Capability to deploy emerging digital technologies is extreme.
- ▶ Sensing the needs of the public and the communities.
- ▶ Share connections (MAC and IP address).
- ▶ Lack of encryption.
- ▶ Personal Data Violation.

# The risks of Unsecured IoTs

- ▶ Losing over \$400 billion per year.
- ▶ Vulnerabilities in Web Applications.
- ▶ Insecure Firmware and Software.
- ▶ Extreme amount of Data Generation.
- ▶ Critical Terms & Agreement.



# Resources

- ▶ Chatfield, A. T., & Reddick, C. G. (2019). A framework for Internet of Things-enabled smart government: A case of IoT cybersecurity policies and use cases in US federal government. *Government Information Quarterly*, 36(2), 346-357.
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- ▶ C. Kotas, T. Naughton and N. Imam, "A comparison of Amazon Web Services and Microsoft Azure cloud platforms for high performance computing," 2018 IEEE International Conference on Consumer Electronics (ICCE), 2018, pp. 1-4, doi: 10.1109/ICCE.2018.8326349.
- ▶ Abdel-Basset, M., Manogaran, G., & Mohamed, M. (2018). Internet of Things (IoT) and its impact on supply chain: A framework for building smart, secure and efficient systems. *Future Generation Computer Systems*, 86(9), 614-628.
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# THANK YOU

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