

DATA ANALYSIS IN THE INTERNET OF THINGS

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Over the past few years, there has been much hype surrounding the Internet of Things – both consumers and businesses strive to follow technological developments in the area of connected devices [1, 2].

The purpose of the report is to explore how data analytics works in the Internet of Things.

One growing trend in IoT development is the collection and analysis of data from geographically distributed sensors.

Today, a large variety of small and inexpensive but powerful sensors can be attached to almost any device. These sensors transmit data at a given frequency and with some accuracy [3].

The data from the sensors is of little value if it is not collected and transmitted to the place where it is viewed and analyzed. Intel Galileo, Intel Edison boards and the IoT Analytics site are designed for this purpose. These development boards can be connected (via an Arduino adapter or via Bluetooth) to various input signals, the number of which is limited only by the number of physical ports. Multiple boards can be connected together to combine data from a distributed network of sensors.

The collected and pre-processed sensor data stream can be collected directly at a secondary processing point, such as an IoT Analytics site.

As the accessibility of IoT data analytics grows, more and more organizations are seeing the benefits of having it. Widely known companies such as Microsoft, GE, Amazon, SAP, and Salesforce have already started implementing IoT data analytics into their everyday processes.

References

1. Tkachov V. Interval Evaluation of the Survival Rate of the Computer Network On the Basis of Highly Mobile Units With Normal Distribution of Work / V. Tkachov, O. Yeroshenko, L. Bukharova // Trends in science and practice of today. Abstracts of V International Scientific and Practical Conference. Ankara, Turkey. 2021. Pp. 409.
2. Кучук Г.А. Метод мінімізації середньої затримки пакетів у віртуальних з'єднаннях мережі підтримки хмарного сервісу / Г.А. Кучук, Н.В. Лукова-Чуйко. // Системи управління, навігації та зв'язку. – Полтава: ПНТУ, 2017. – Вип. 2(42). – С. 117-120.
3. Shamraev A. Green Microcontrollers in Control Systems for Magnetic Elements of Linear Electron Accelerators / A. Shamraev, E. Shamraeva, A. Dovbnya, O. Ilyunin, A. Kovalenko // Green IT Engineering: Concepts, Models, Complex Systems Architectures. Studies in Systems, Decision and Control series. Kharchenko, V., Kondratenko, Y., Kacprzyk, J. (Eds.). Springer International Publishing Switzerland, 2017. 305 p. Part V – Pp. 283-305. ISBN 978-3-319-44162-7, DOI: 10.1007/978-3-319-44162-7_15.