

Introduction to Big Data

**ECTS** : 3

**Description du contenu de l'enseignement :**

- The background of big data: social background, industrial background, engineering background, scientific background.
- Main research areas of big data: Social public management big data (government big data: France - Open data plan, the United States - data. Gov Openness of high value government data), the UK - the Open data, China – government open data platform, etc.), industrial big data (Germany – industry 4.0, the United States - industrial Internet, China - made in China 2025, Britain - British industry strategy 2050, South Korea - manufacturing innovation 3.0, Japan - dominant industry value chain, etc.), agricultural and ecological environment big data (China Internet plus agriculture, the United States - Crowd Flower), medical big data (China - smart medicine, the United States - Open the FDA, Japan - DPC data, etc.), national defense big data (China, France, the United States).
- Main problems in the research of big data: Data processing, data modelling, data processing methods, data variation analysis, future situation prediction.
- Architectures of big data system: the architecture of cloud computing, the architecture of Mobile computing, the architecture of IoT, the architecture of artificial intelligence.
- Future applications of big data: smart economy (digital economy, network economy, platform economy, sharing economy), smart society (Internet of things, block chain, virtual society).

- The main contents of Introduction to Big Data including the background of big data(social background, industrial background, engineering background, scientific background), basic elements of big data, architectures of big data systems and applications of big data models. This course aims to help students to understand the basic theories and research methods of big data, analyze and solve problems with the methods of big data, and make a difference in the field of innovation.

**Compétence à acquérir :**

- Understand the background of big data.
- Master common big data models.
- Master an effective big data analysis method.
- Master the big data system architecture.

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