



NATIONAL RESEARCH
UNIVERSITY

Model Based Testing *meets* **Machine Learning**

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Computer Science at HSE

1. Software engineering
2. Applied mathematics and informatics
3. Applied data analysis

...

- **Laboratory of Modeling and Control of Complex Systems**

The logo for Yandex, featuring a large red 'Y' followed by the word 'andex' in black.The logo for Samsung, consisting of the word 'SAMSUNG' in a bold, blue, sans-serif font.The logo for Sberbank, featuring a green circular icon with white diagonal lines on the left, and the word 'SBERBANK' in green, underlined, on the right.The logo for exactpro, featuring the word 'exactpro' in a dark blue, sans-serif font, followed by a blue circular icon with three stylized human figures. Below the main text is the Latin phrase 'EXITUS ACTA PROBAT' in a smaller, dark blue font.The logo for CERN Hadron Collider, featuring the CERN logo on the left and the words 'Hadron Collider' in white on a dark blue background on the right.

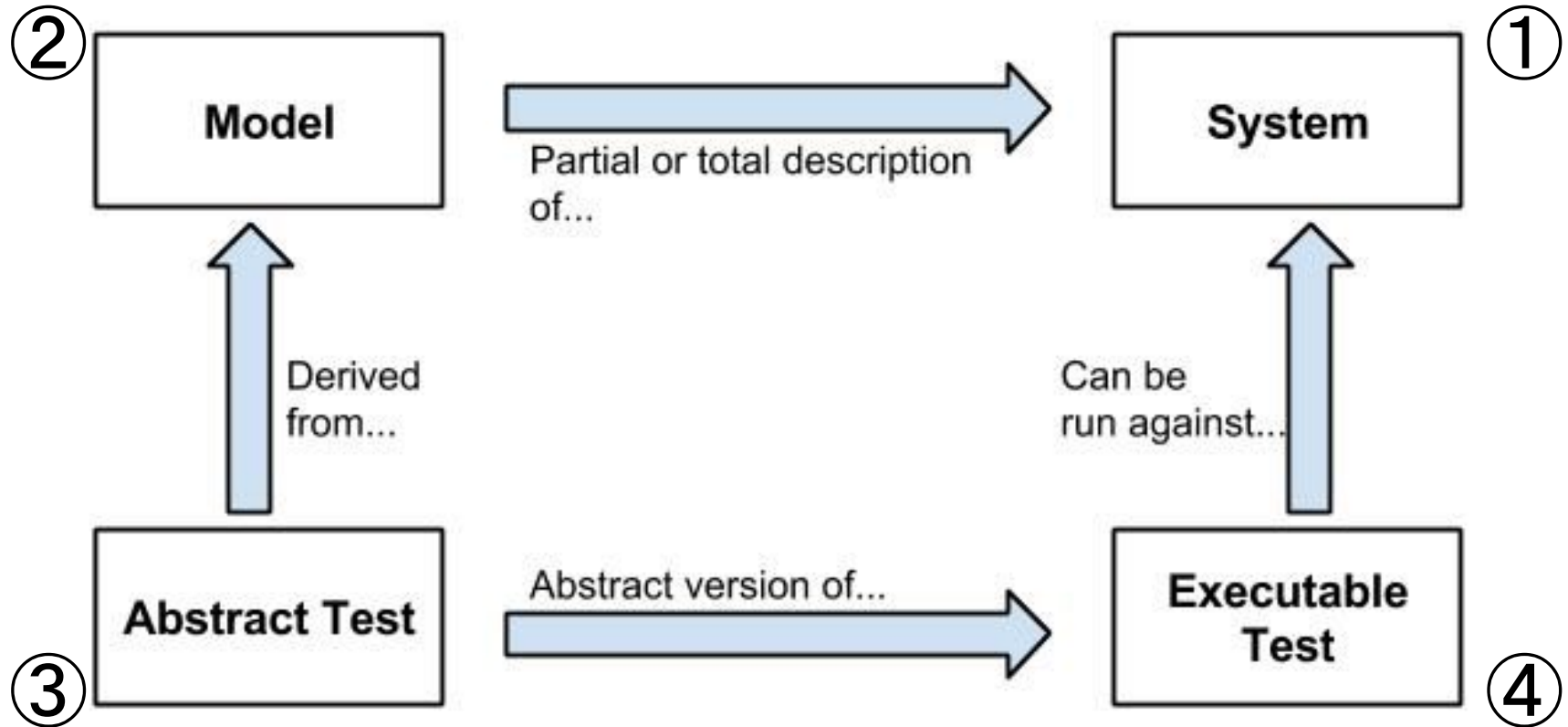
Model based testing

Models are used to represent the behavior of a system under test (SUT)

A model describing a SUT is usually an **abstract, partial presentation** of the SUT's desired behavior. Often the model is a finite state transition system.

Test cases derived from such a model are **functional tests** on the same level of abstraction as the model

Model based testing

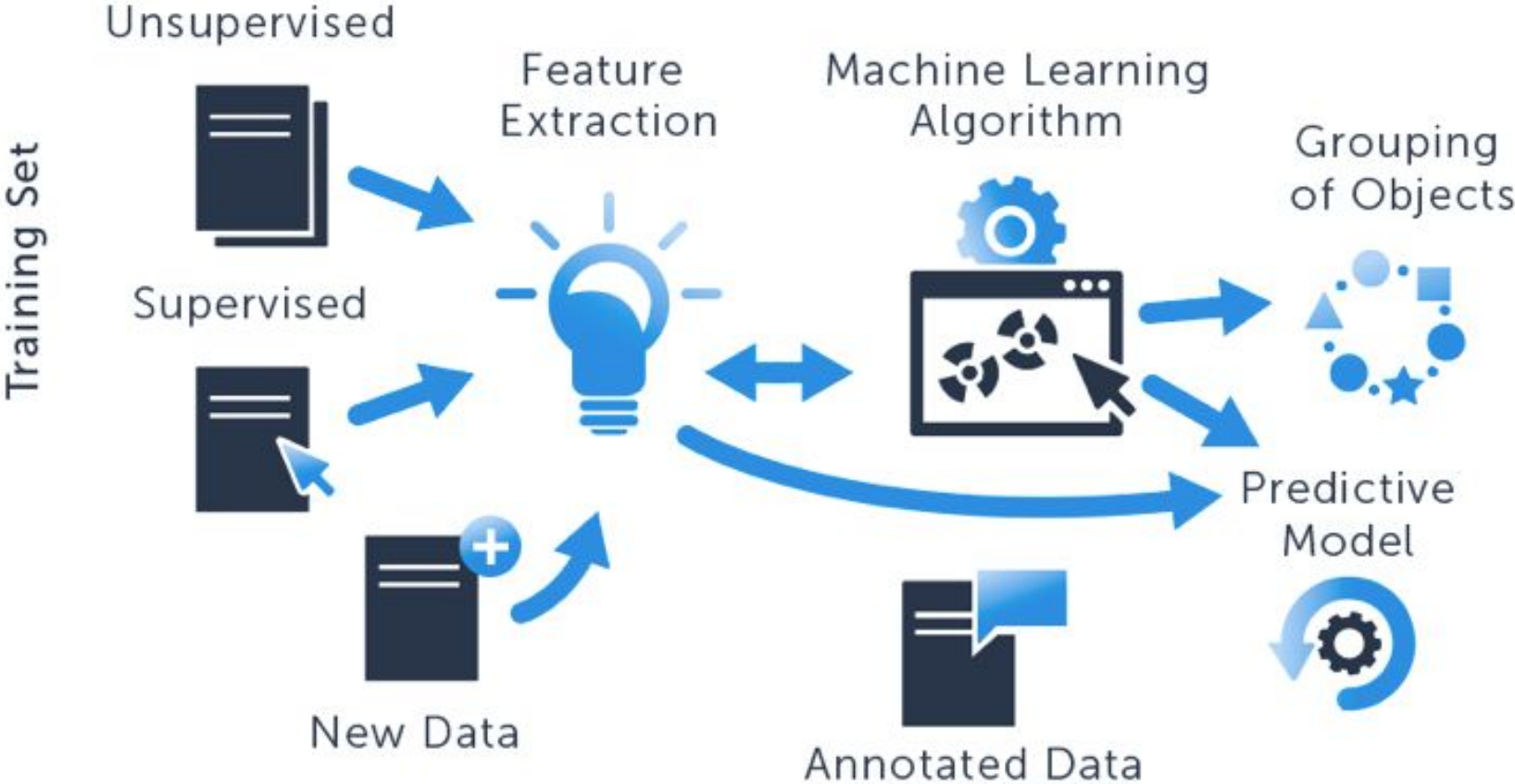


Machine learning

Machine learning uses statistical techniques to give computers the ability to "***learn with data***", i.e. progressively improve performance on a specific task without being explicitly programmed

Machine learning is a method used to **devise complex models** and algorithms that are used for predictive analytics

Machine learning



Our strategy and plans

Education

- Summer/Winter Schools, Trainings

Fundamental research

- Regular research seminar, scientific conference, publications

Collaborative projects with the industry

- To land AI/ML/Blockchain/Chatbots and other fancy buzzwords into useful products and applications

Let's collaborate

... to turn software testers into data scientists!

