Challenges and perspectives in machine learning

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Purpose of this talk

Illustrate recent **trends** and **challenges** in machine learning on **practical examples**.

Supervised learning paradigm

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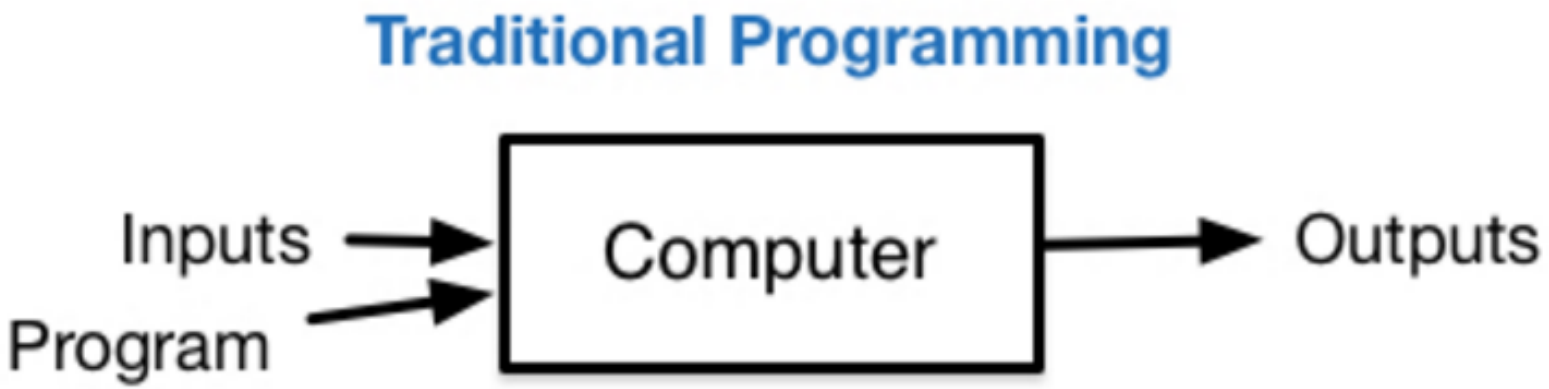

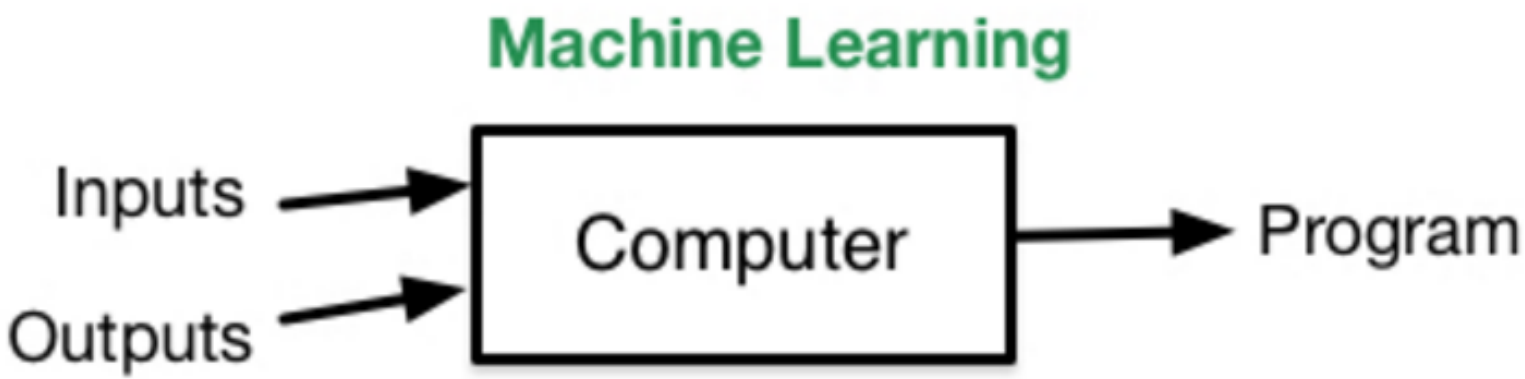

Example 1: Machine translation

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- Input = reference text
- Output = translated text

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There are differences between languages at different levels:

- Genders, e.g. neutral, masculine, feminine
- Conjugation
- Cases
- ...

Machine translation: A tricky example

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This is key because, if we wanted to translate this sentence into Bulgarian, we would be faced to the following challenge:

- Trophy = трофей is masculine
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Consequence: "it"would refer to a masculine or a feminine noun, depending on the context.

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This is often referred to as **long short-term memory** (LSTM).

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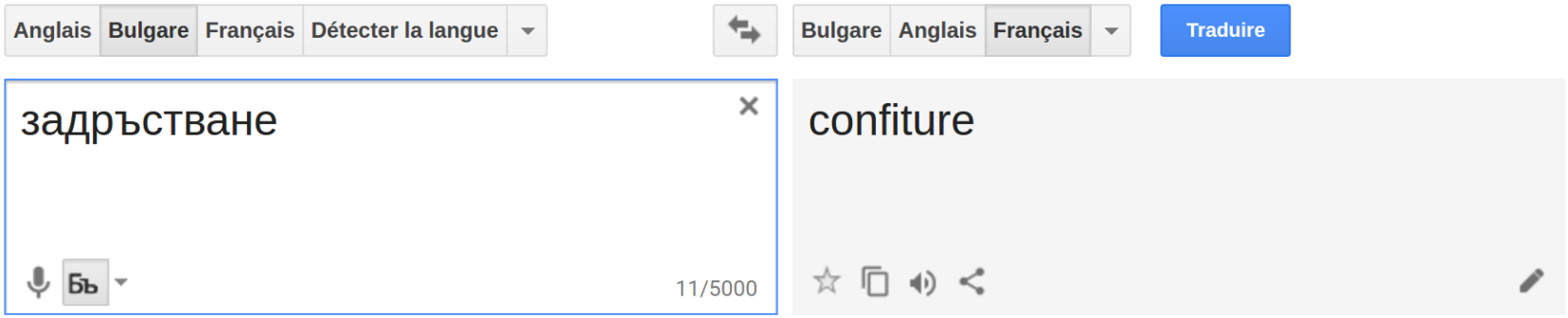

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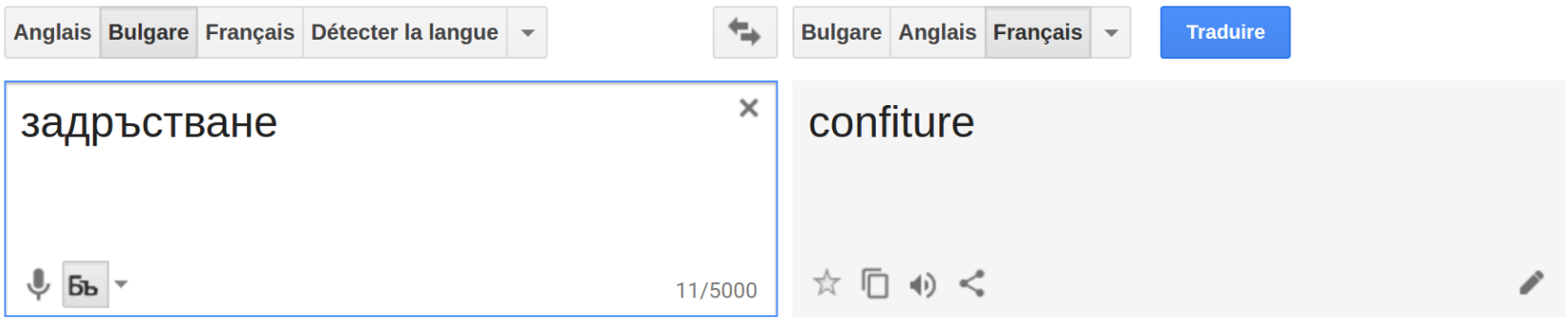

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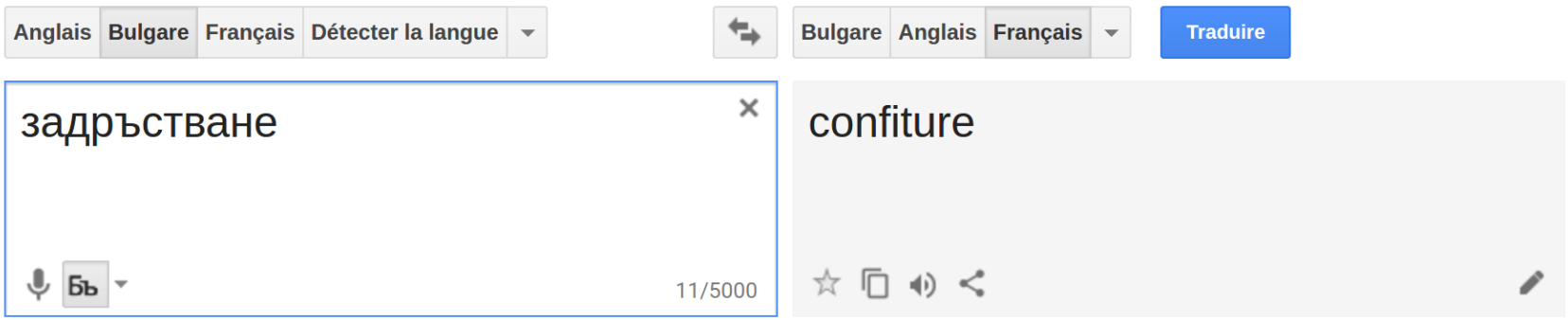

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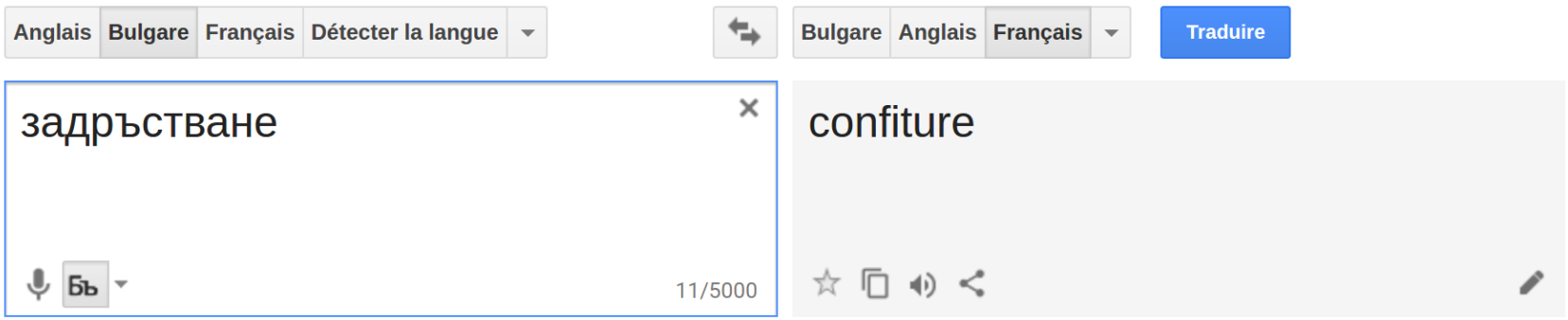

How could it be? This is **jam** in English.

Example 2: Acquiring data

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. . . so that real human can provide labels (outputs) to their images (inputs)!

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Understanding **corner cases** is **key**!

Thank you! Questions?

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