Using tools for solving problems

11/06/2026

.grow
.transform
.imagine

Why physicists are naturally good data scientists?

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Input →  → Output

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Because of the ability to look at observations and ask the right questions

- To build hypotheses.
- To design experiments.
- To identify assumptions.
- To separate evidence from conclusions.
- To decide whether a result actually makes sense.

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Research should also teach us about teamwork!

About the team

Autonomous Mobility

Smart Energy

ICT

Digital Water

Sustainable Construction

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Autonomous Mobility

Smart Energy

ICT

Digital Water

Sustainable Construction

- Project Management
- Software Development
- Devops
- RA/VA
- CV/NLP

Data Science

- x 4 Computer Eng
- x 1 Chemical Eng
- x 1 Teleco Eng
- x 4 Physics
- x 1 AI
- x 8 Data Eng
- x 1 Electrical Eng

About the job

WHAT DO WE DO?

*Use **mathematical methods** and algorithms to extract meaningful **insights from a given dataset** regarding its characteristics, as well as to make reliable predictions under specified assumptions. In other words, **use different tools to solve problems**.*

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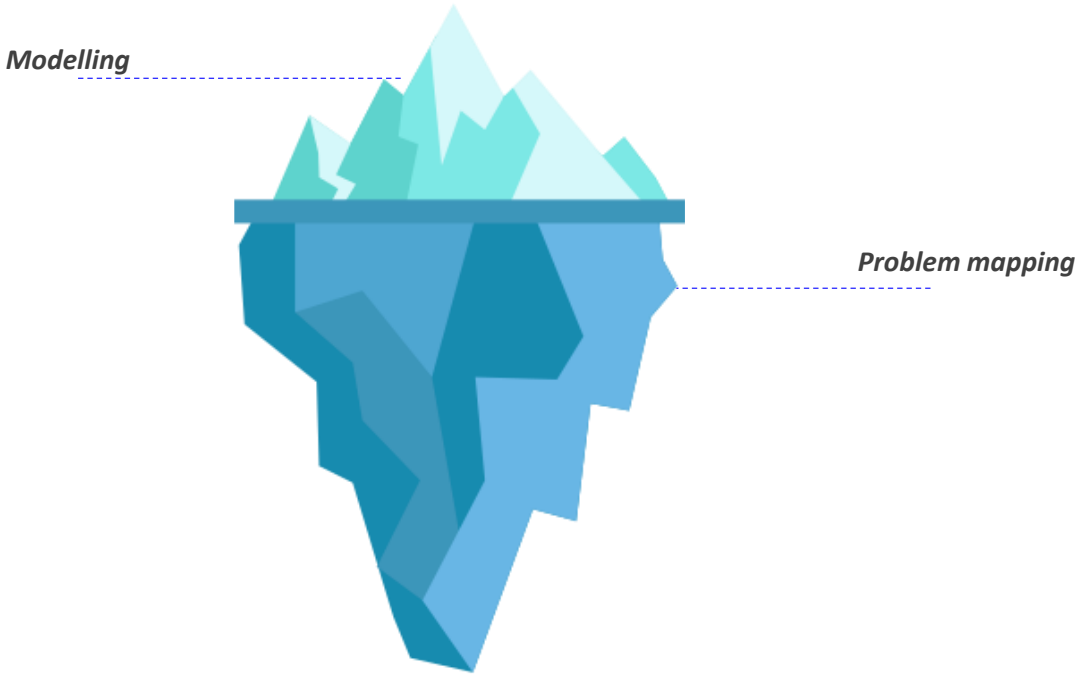

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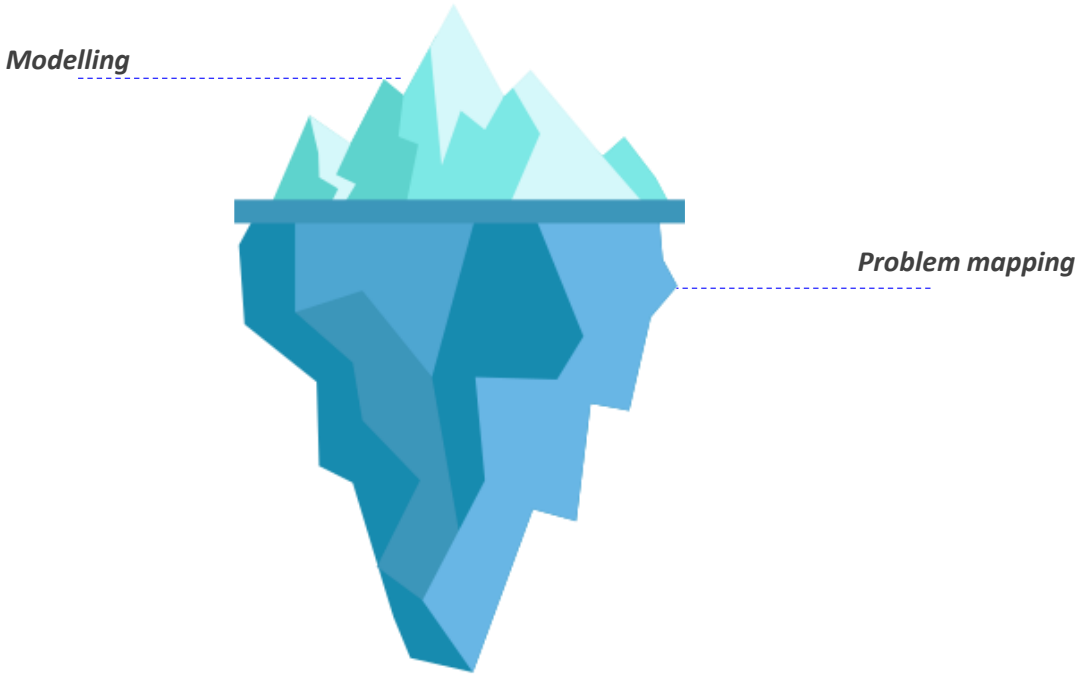

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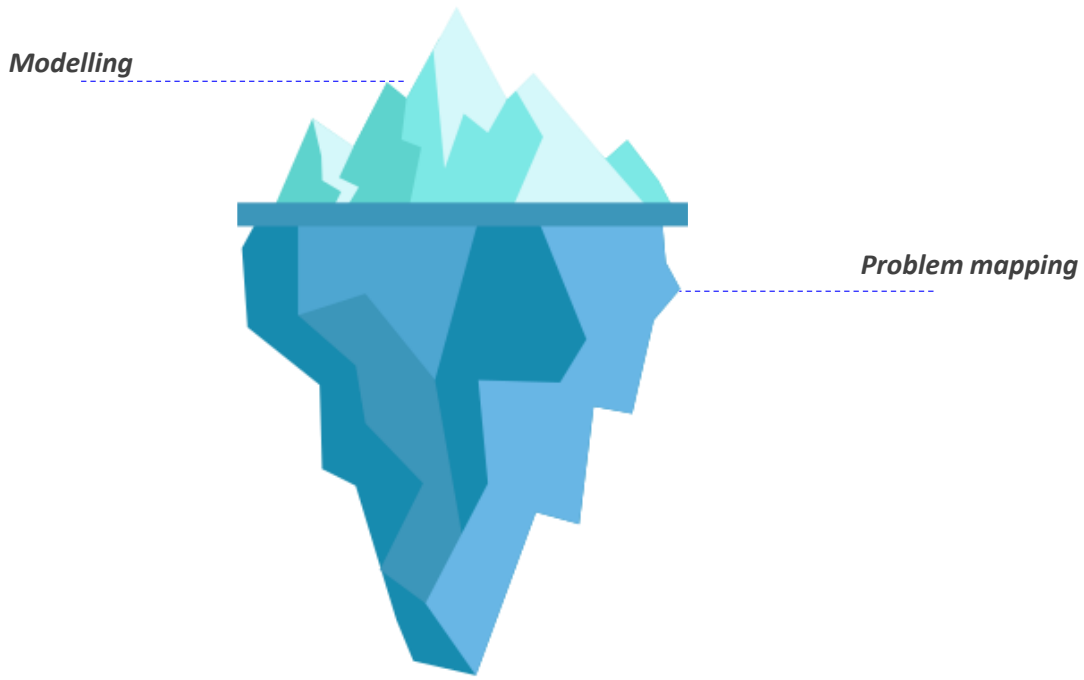

- What decision will be made?
- Who will make it?
- What success actually means?

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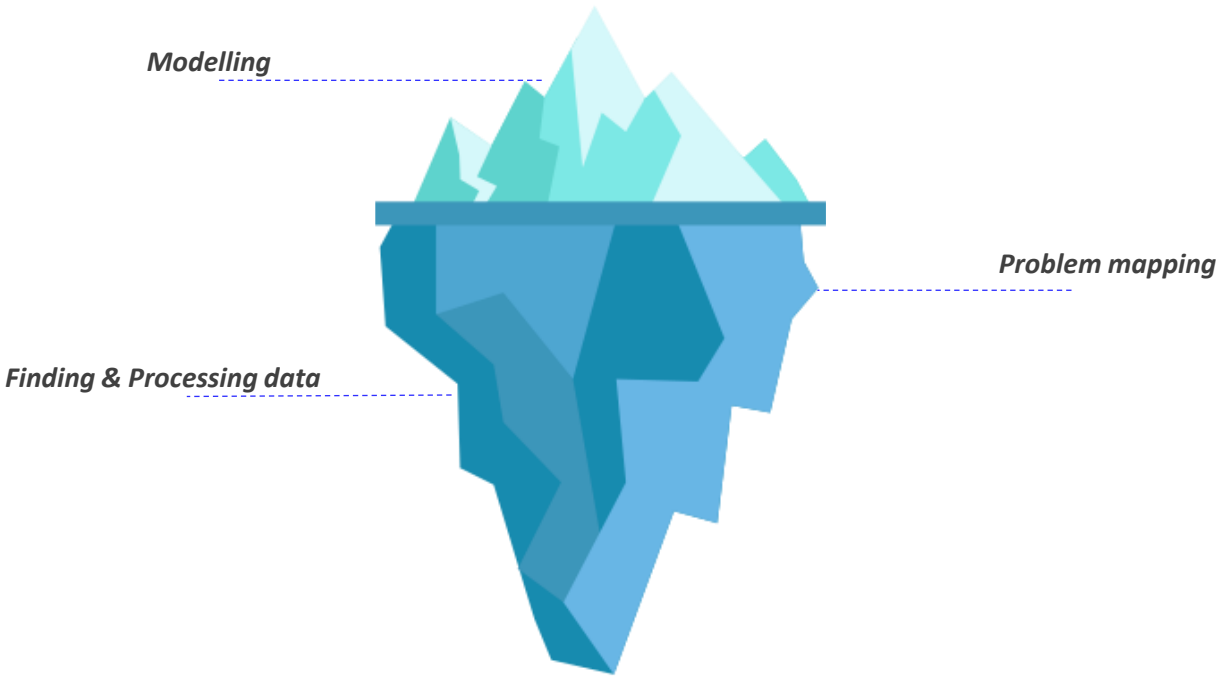

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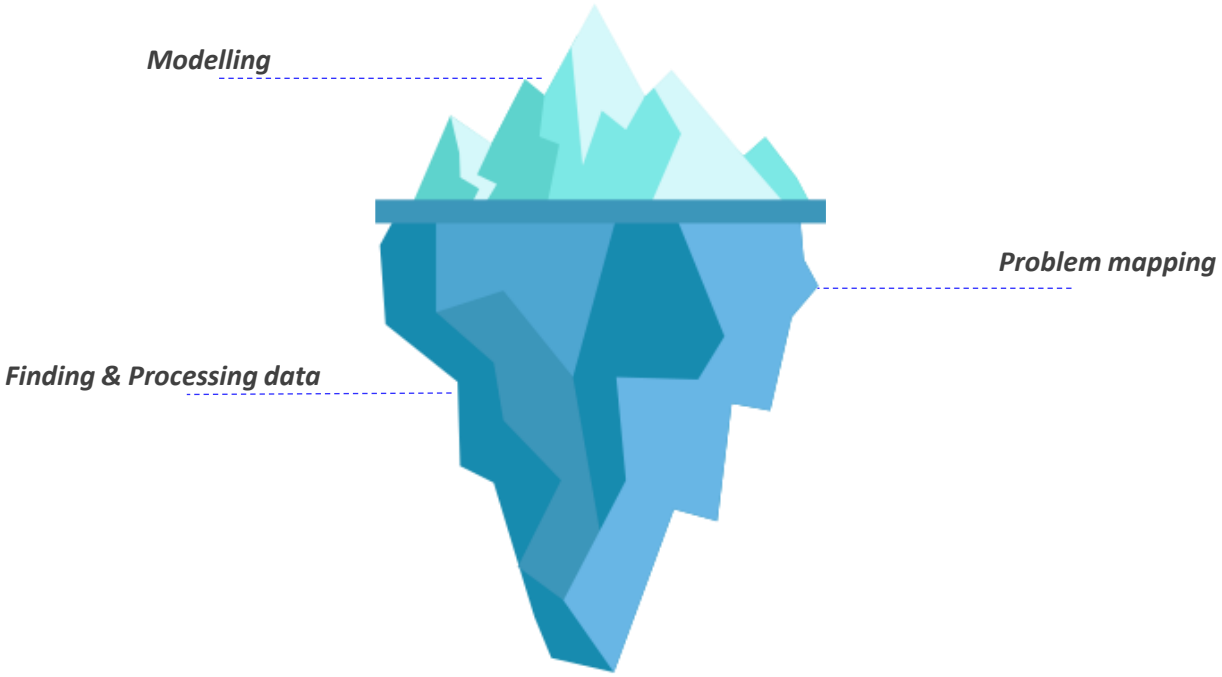

Material input	pH	VFA (mg/l)	DM (%)	oDM (%)
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800,1	5,45	5	0,19	0,01
800,1	4,46	105	0,19	0,01
0	4,68	50	0,26	0,02

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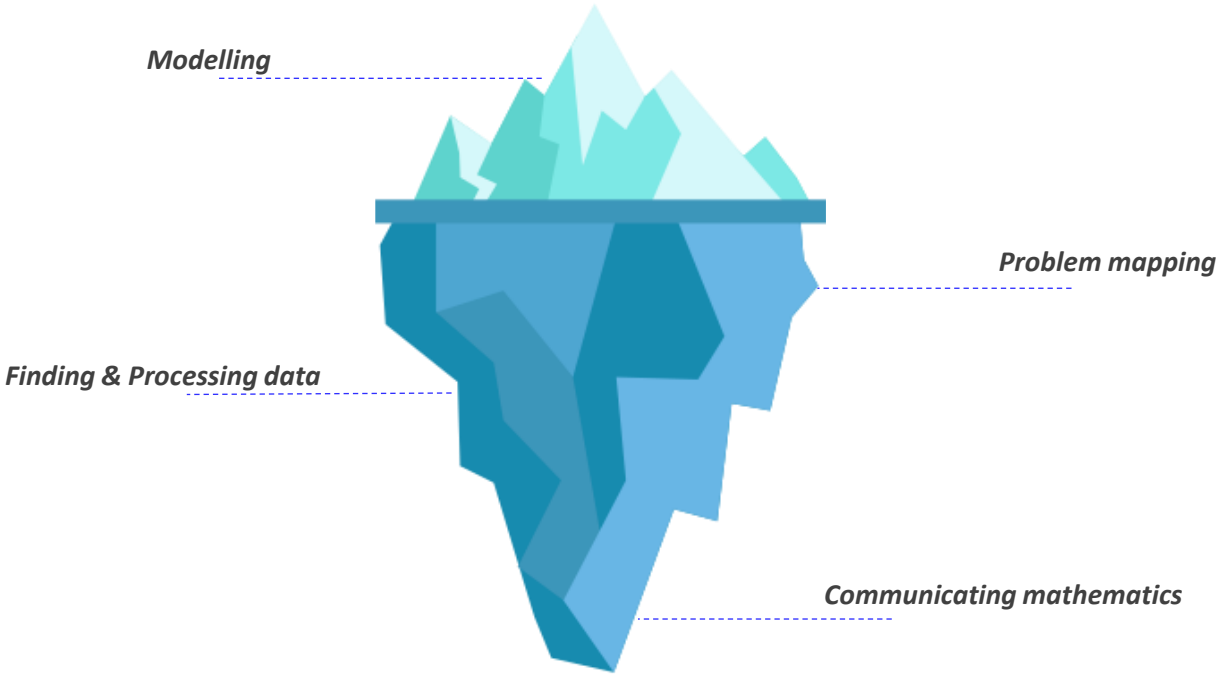

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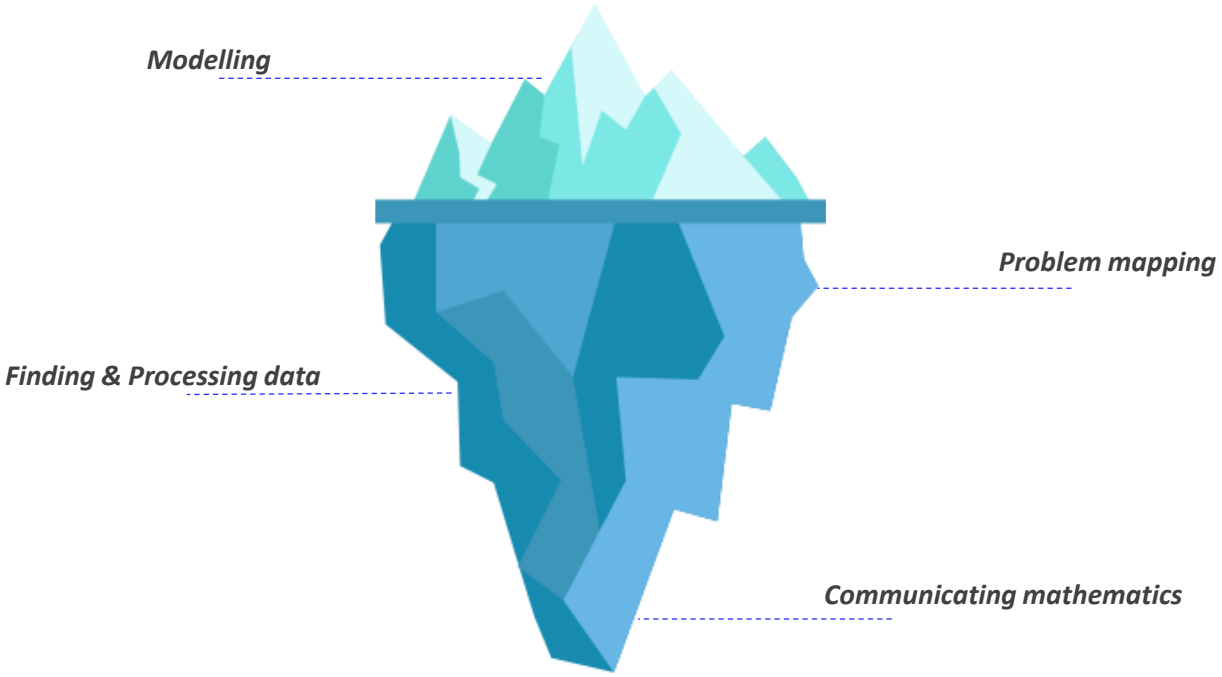

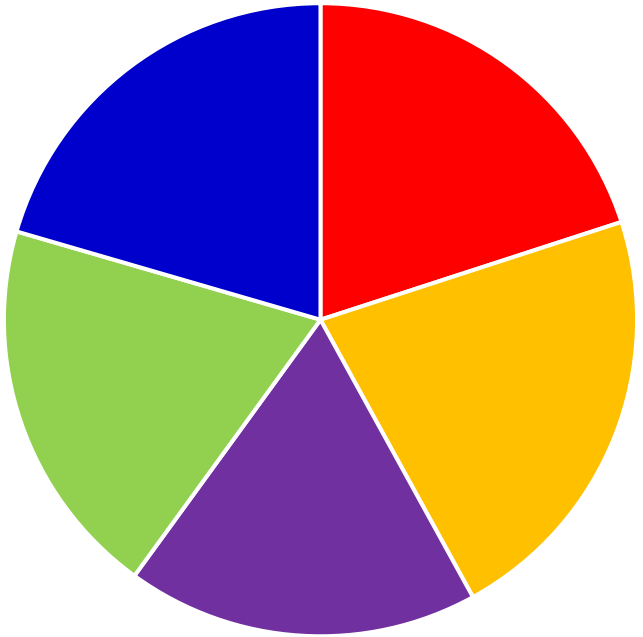

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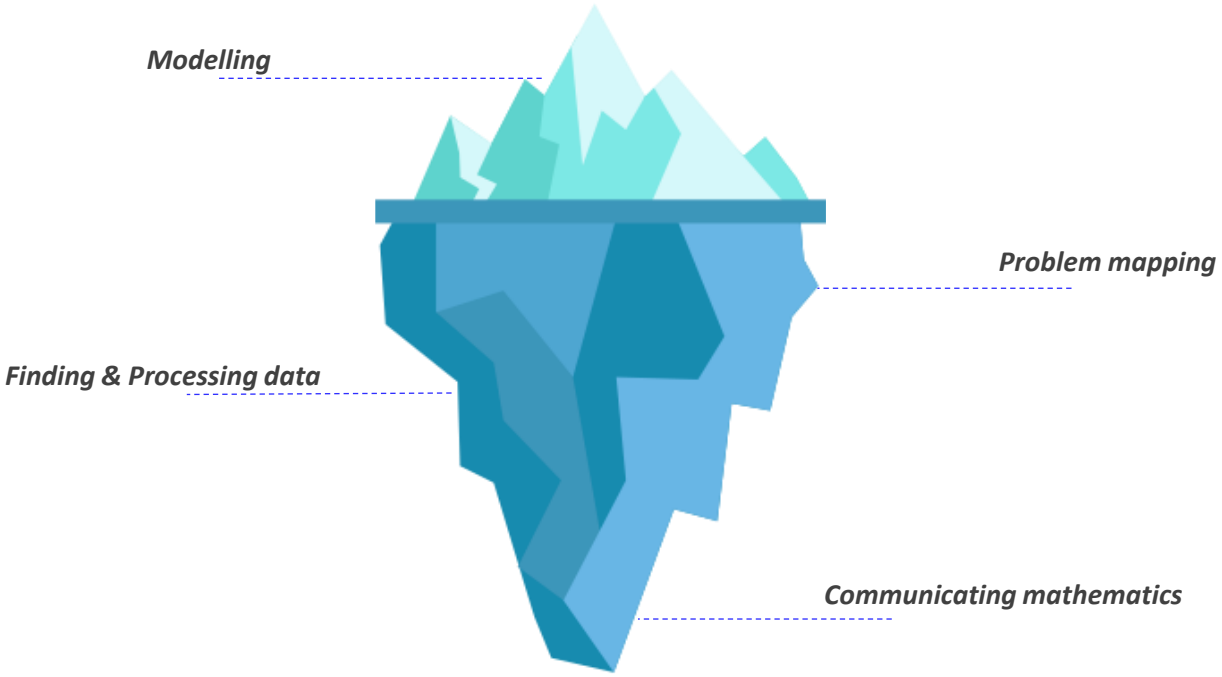

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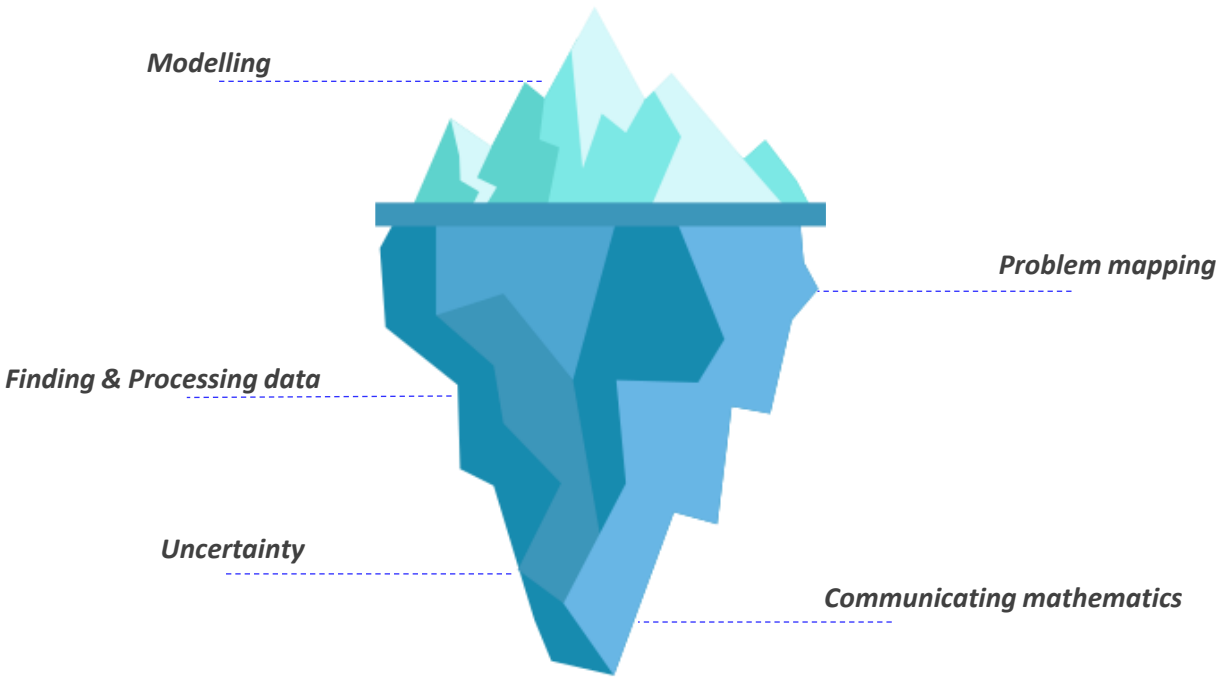

- Industry often asks for certainty.
- Data almost never provides certainty.
- What it provides is evidence.

To sum up

- Data science is not fundamentally about algorithms. It is about **good critical thinking**.
- The most valuable thing you gain during a PhD is the ability to **turn observations into knowledge.**
  - To ask meaningful questions.
  - To quantify uncertainty.
  - To critically evaluate evidence.
- And ultimately, to **support decisions with data.**

Thank you!

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