

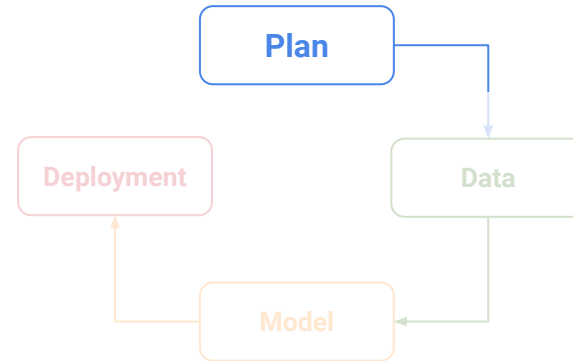
Data Science Lifecycle

The lifecycle outlines the steps that successful data-science projects follow

Prof. Dr. Jan Kirenz
HdM Stuttgart

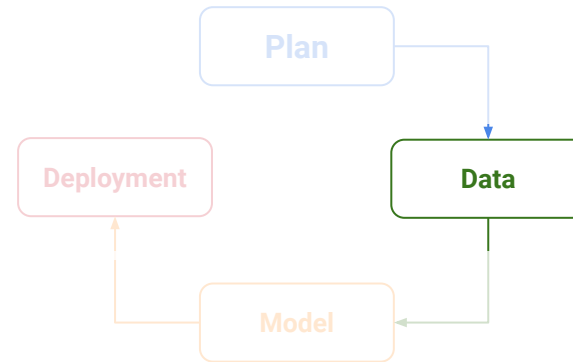
Data science includes ...

- Identifying promising use cases and creation of **plans**
- **Data** abilities
- Creation of **models**
- Understanding of **deployment** options



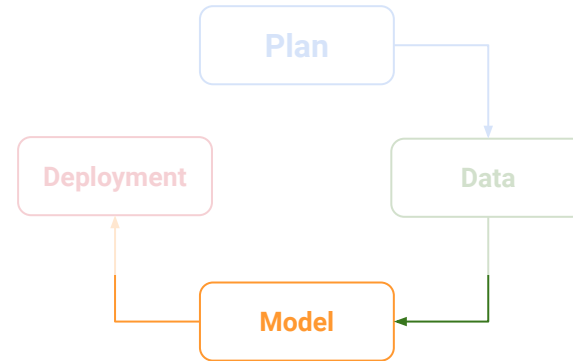
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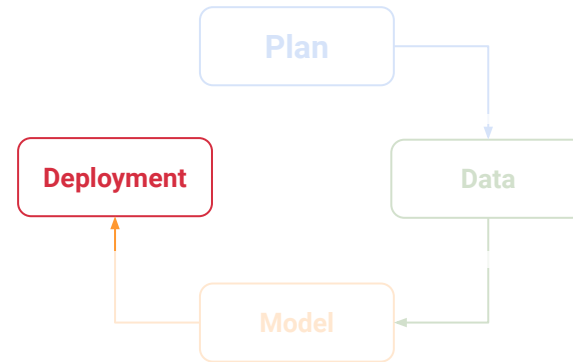
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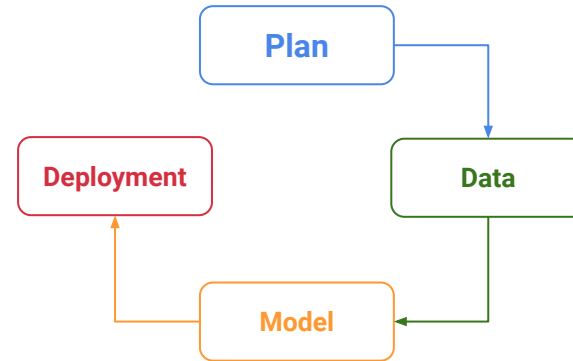
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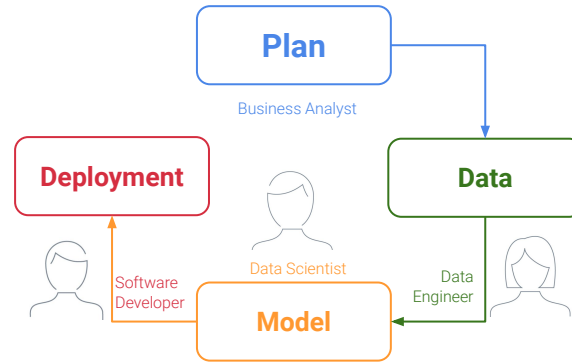


Lifecycle of an (machine
learning) system

Lifecycle

of an ML System

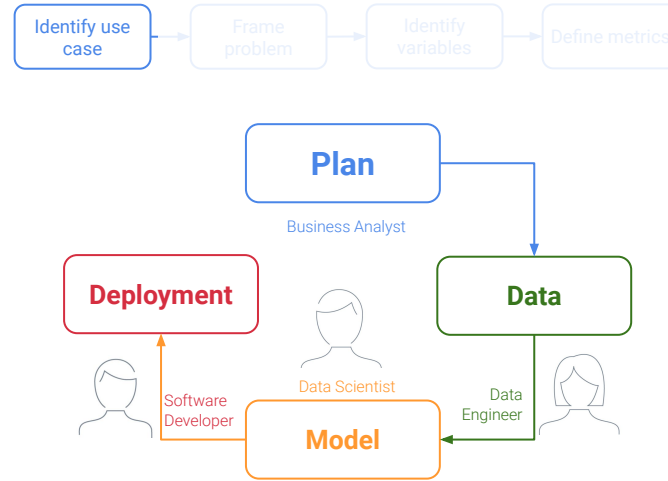
Plan | Data | Model | Deployment



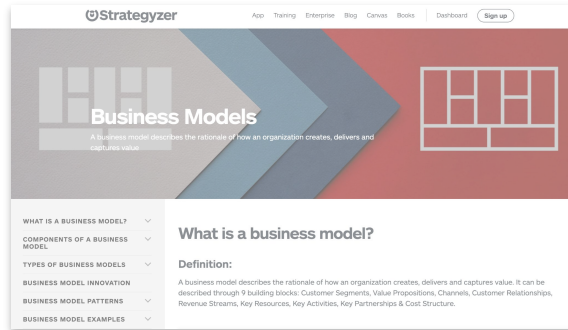
Lifecycle

of an ML System

Plan | Data | Model | Deployment



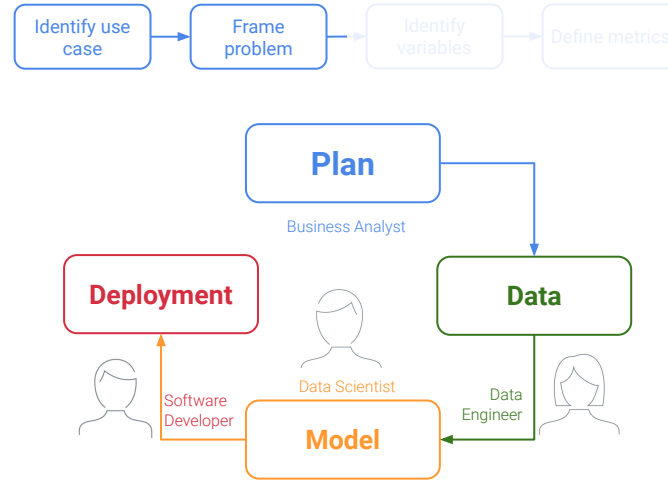
Business Model Canvas



Lifecycle

of an ML System

Plan | Data | Model | Deployment



Identify type of problem

Type of ML Problem

Classification

Regression

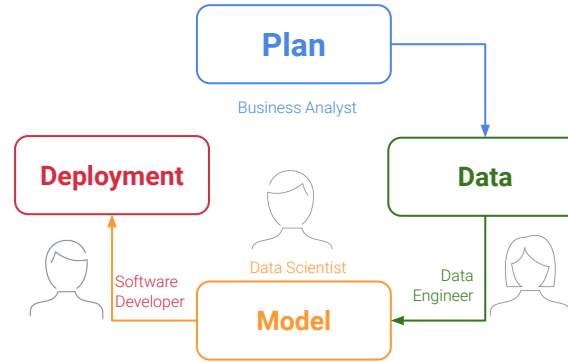
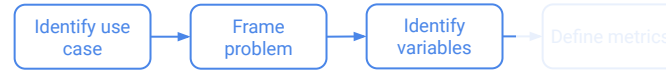
Clustering

Association rule learning

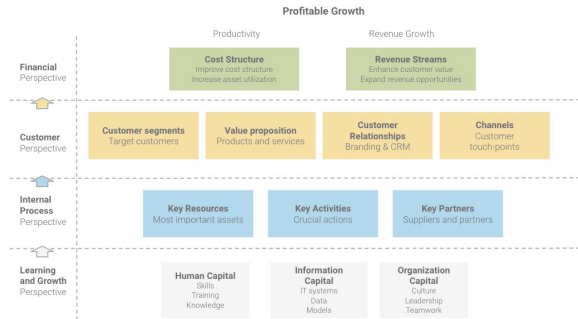
Lifecycle

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Plan | Data | Model | Deployment



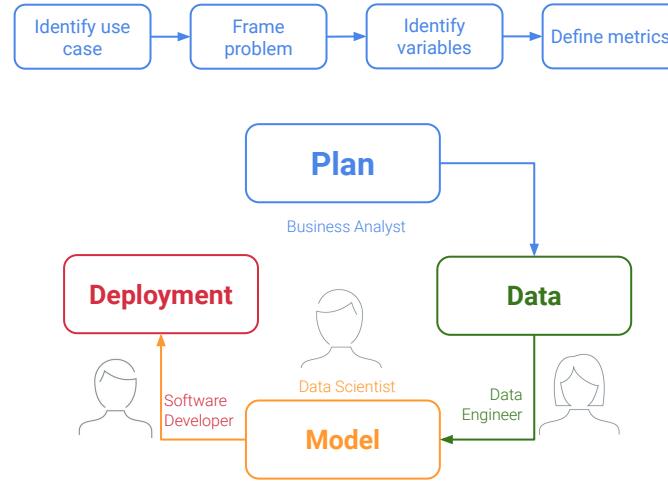
Strategy Mapping



Lifecycle

of an ML System

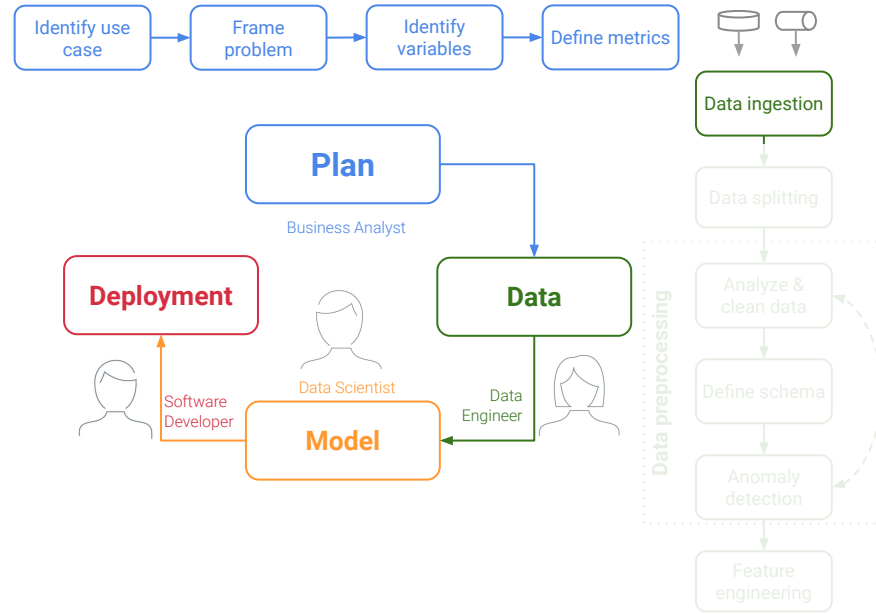
Plan | Data | Model | Deployment



Lifecycle

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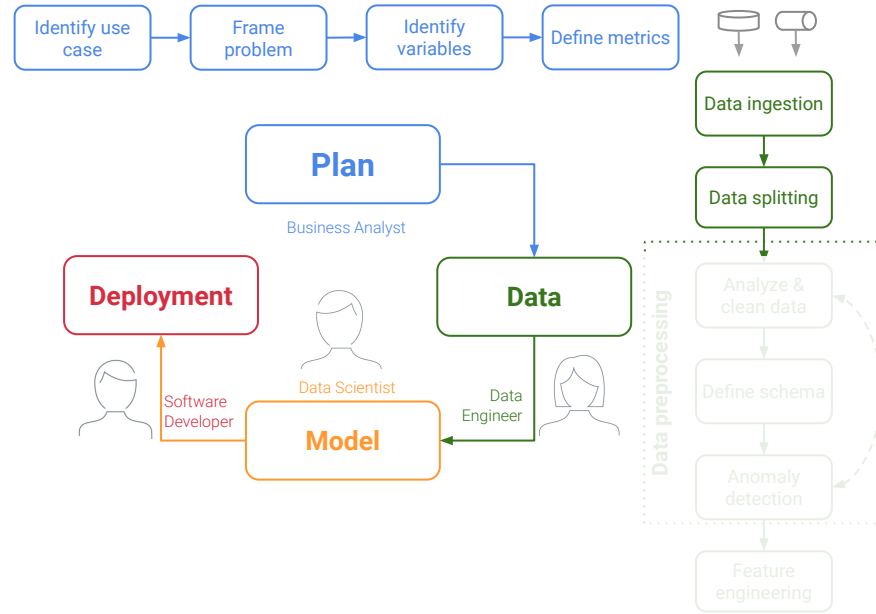
Plan | **Data** | Model | Deployment



Lifecycle

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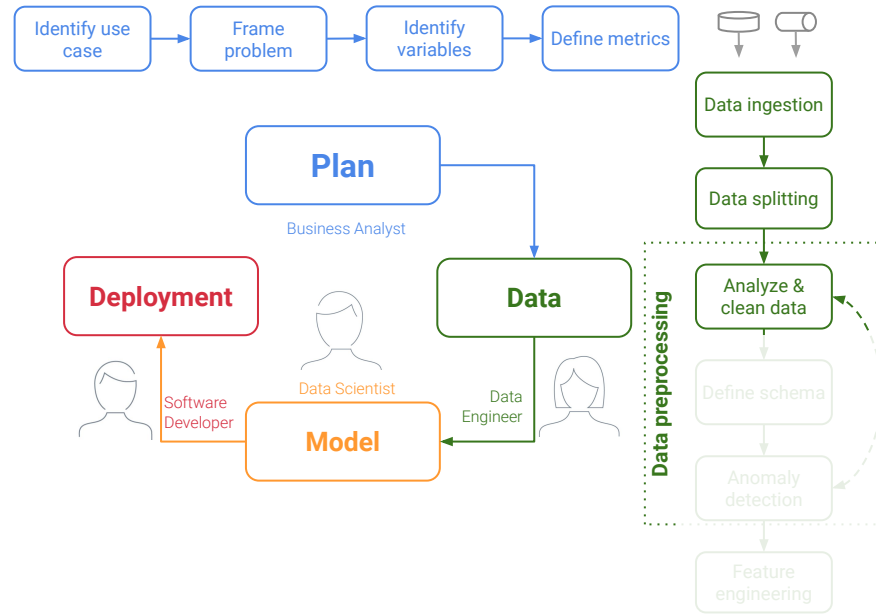
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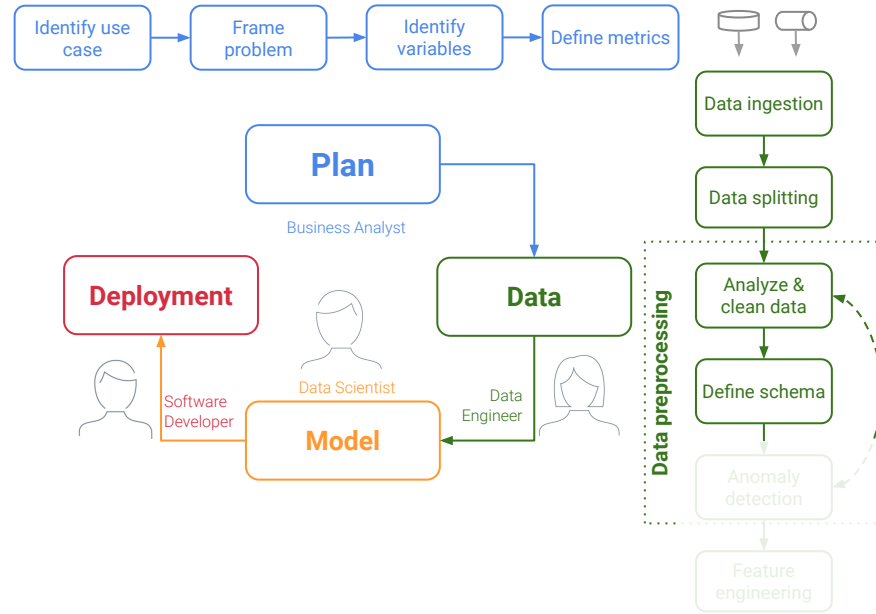
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Lifecycle

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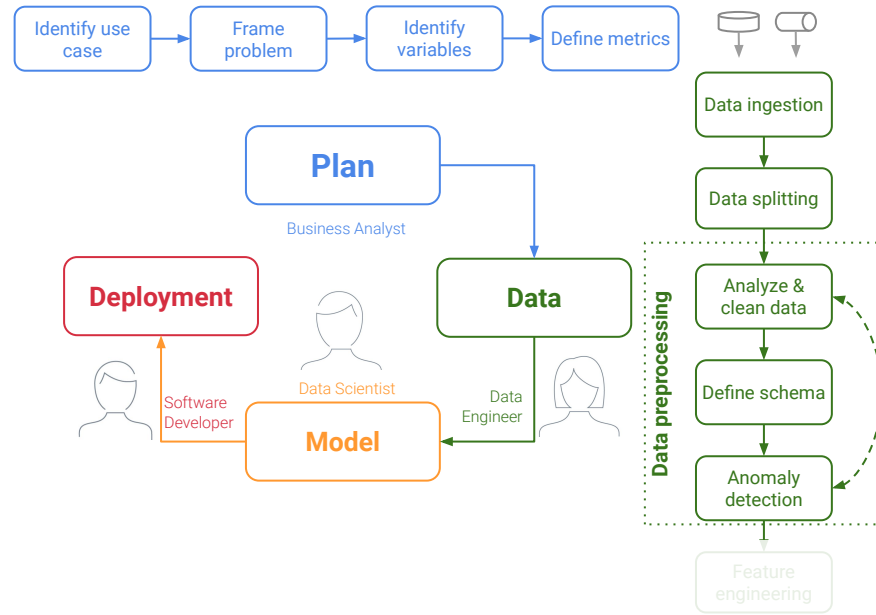
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Lifecycle

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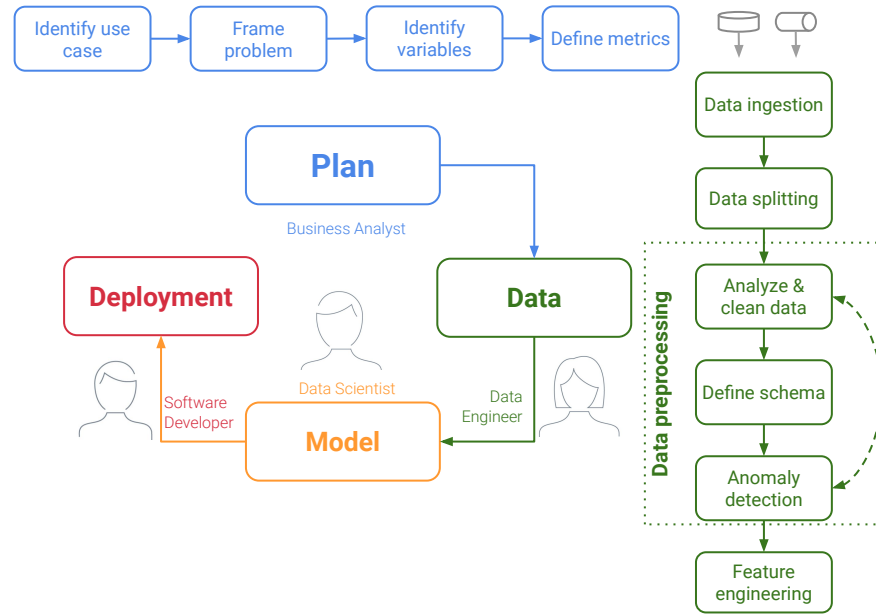
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Lifecycle

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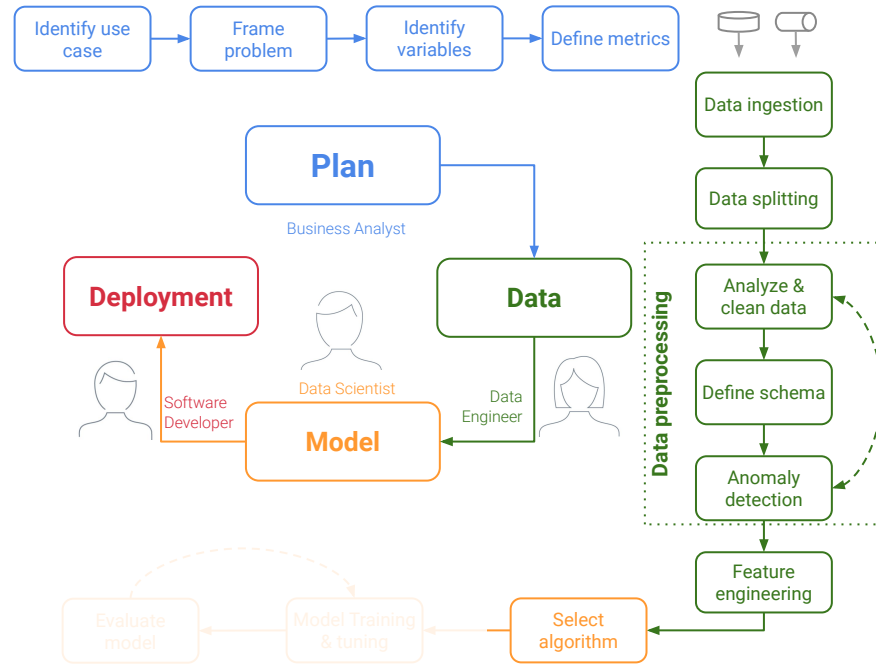
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Lifecycle

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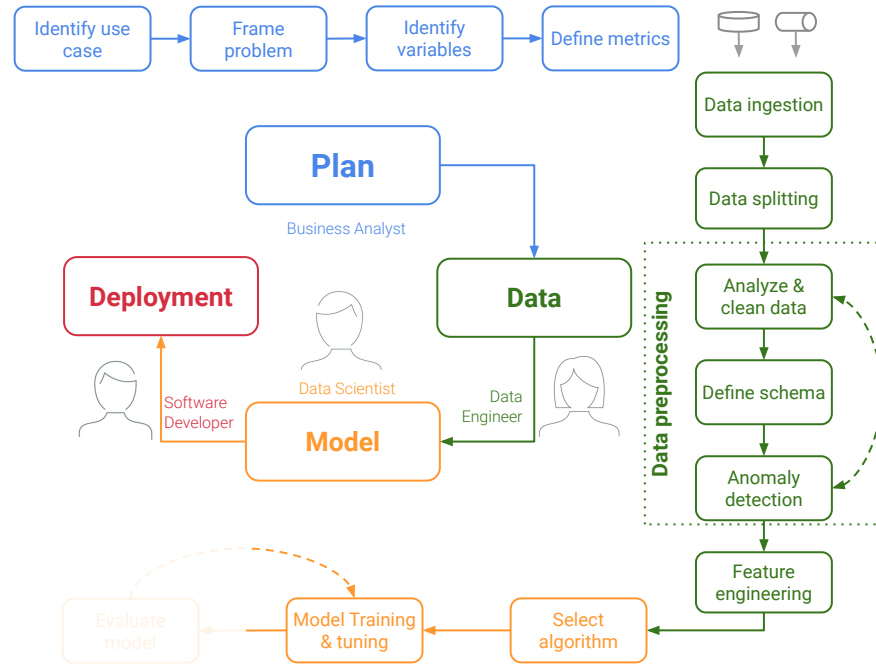
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Lifecycle

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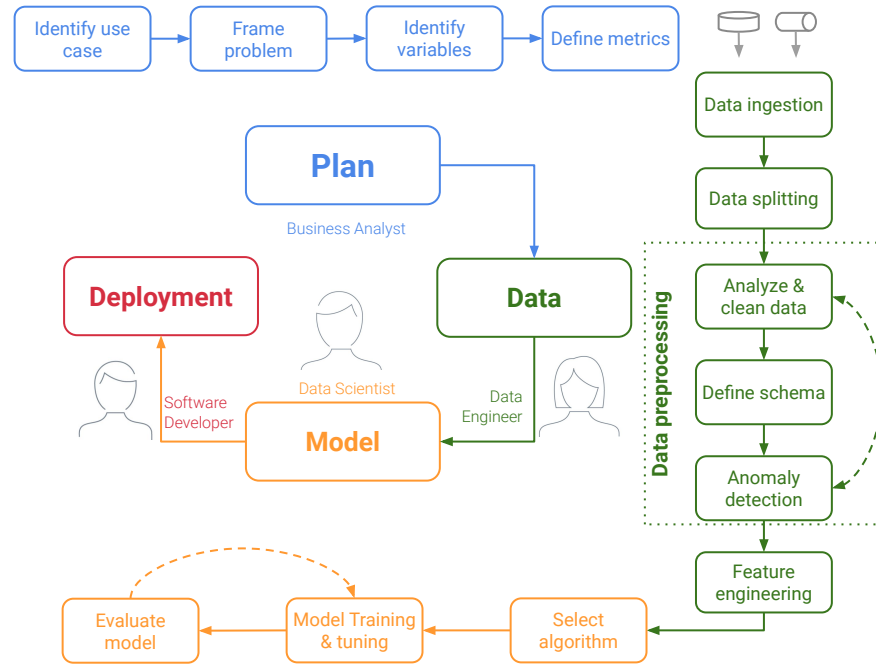
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Lifecycle

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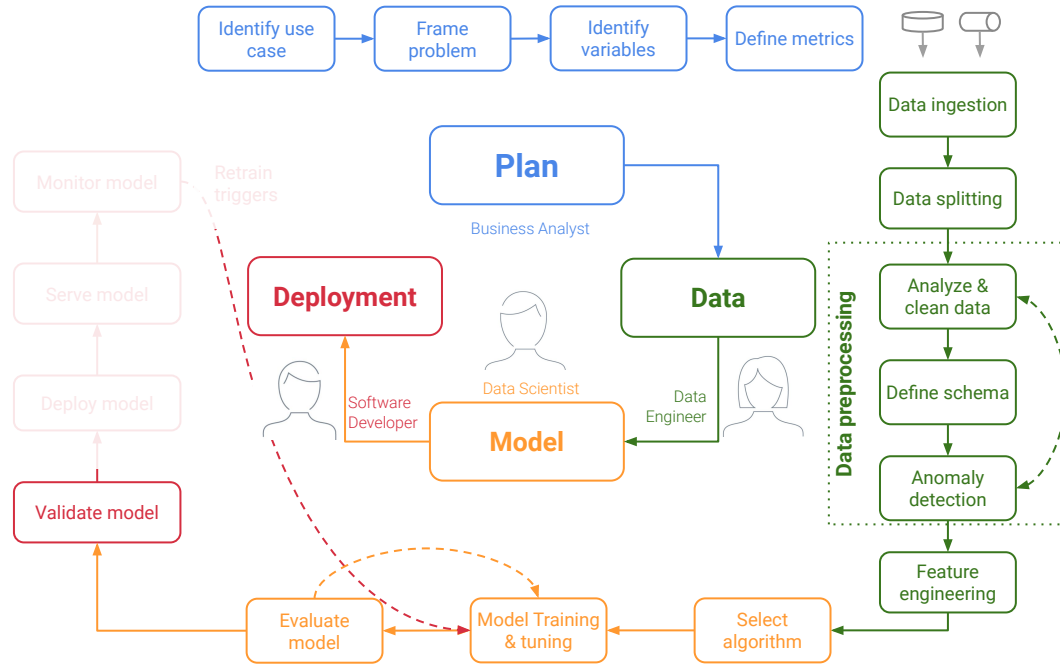
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Lifecycle

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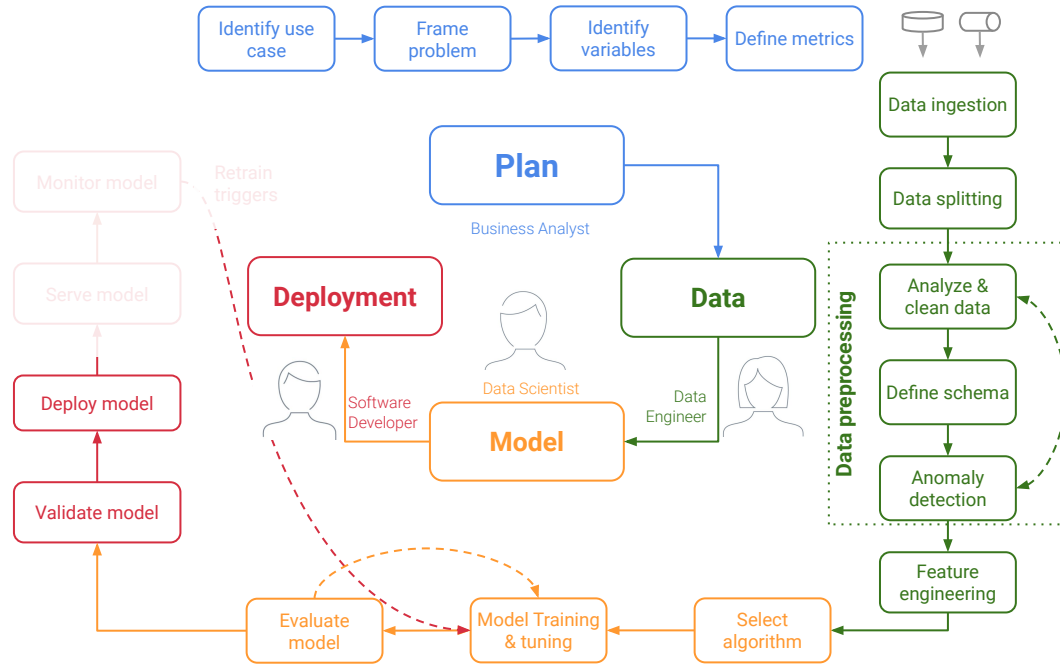
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Lifecycle

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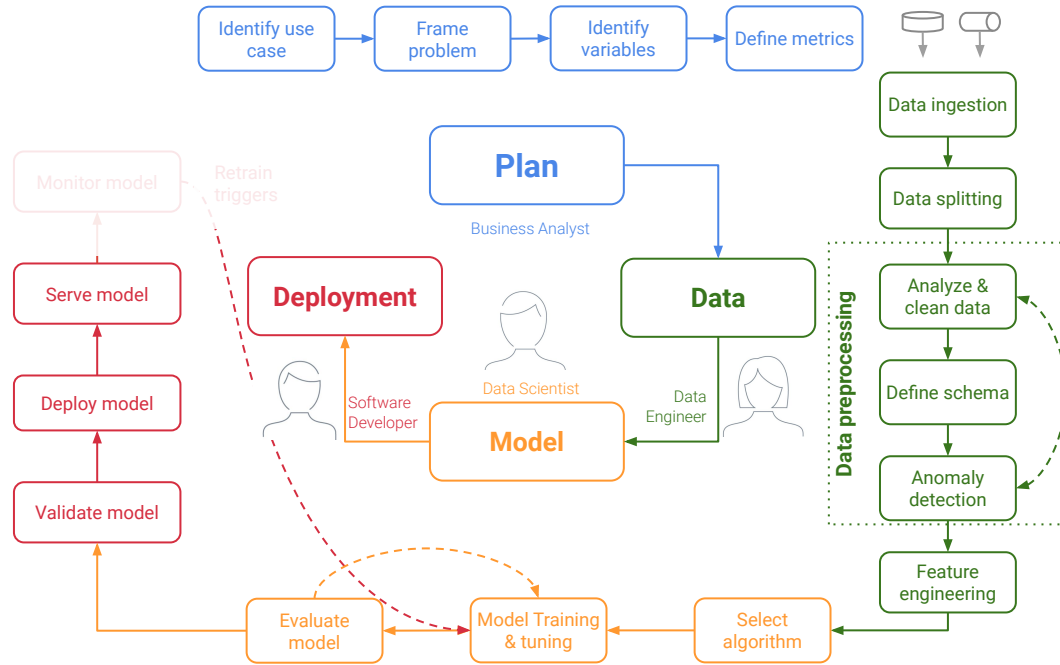
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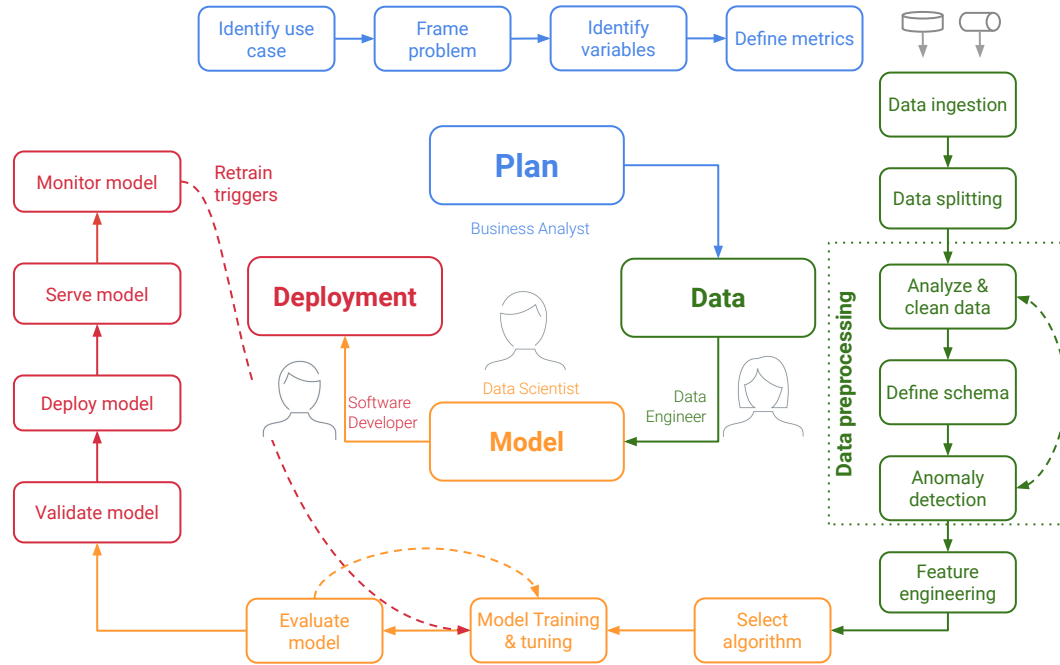
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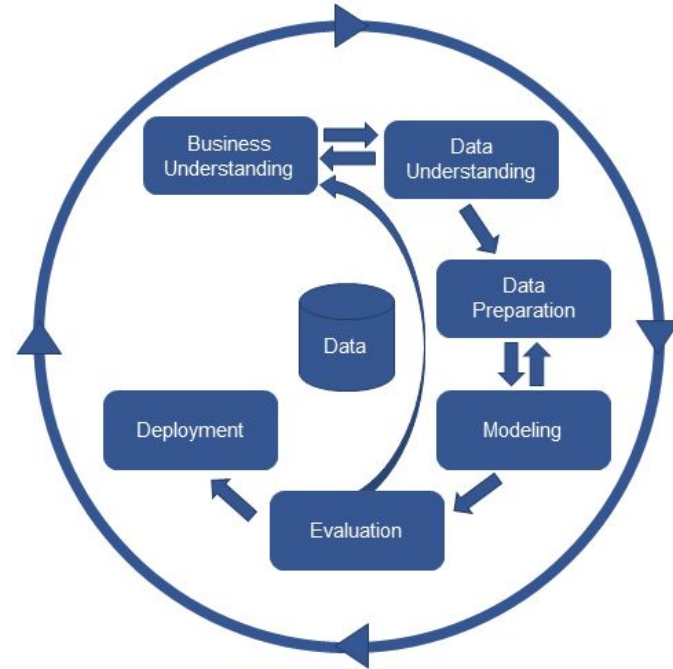
Plan | Data | Model | **Deployment**



Alternative lifecycles

Cross industry standard process for data mining (CRISP-DM)

- 1) Business understanding
- 2) Data understanding
- 3) Data preparation
- 4) Modeling
- 5) Evaluation
- 6) Deployment



Source: Wirth & Hipp (2000)

Data Science Lifecycle

